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ABSTRACT

Variability in diagnostic procedures and a lack of valid and reliable measures led to the development of a comprehensive battery, which incorporated an operational definition of learning disabilities. The battery consisted of forms for observing these functions: intelligence, academic achievement, gross and fine motor control, visual perception, visual-motor coordination, auditory and verbal functioning, attention, and developmental history. It called for the administration of eleven standardized tests which measure these functions. Outdated norms, frequently for a limited age range, and questionable face validity indicated the need for restandardizing norms. Norms were obtained on 21 widely-used psychological tests from 540 children, ages 6.0 to 11.11, with controls for IQ, socioeconomic status, and sex. The data supported an expected relationship between visual and auditory-verbal cognitive functions, as well as between memory and attention span. Few sex differences were noted on the various subtests. Certain tests did not discriminate adequately at specific age levels because of limited range or wide variability of scores. Socioeconomic level was confirmed as an important variable, particularly when assessing auditory-verbal functions. Factor analysis was employed because of the large number of significant correlations among the tests. Three main factors indicating learning disability emerged: reasoning, auditory sequencing, and sound blending. (Author/CP)

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TOWARD OBJECTIVITY IN DIAGNOSING LEARNING DISABILITIES: REFINEMENT OF ESTABLISHED PROCEDURES

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TOWARD OBJECTIVITY IN DIAGNOSING LEARNING DISABILITIES: REFINEMENT OF ESTABLISHED PROCEDURES

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Toronto, Canada

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TOWARD OBJECTIVITY IN DIAGNOSING LEARNING DISABILITIES: REFINEMENT OF ESTABLISHED PROCEDURES

In the mid-1960s, the learning disability bandwagon was in high gear. Parental pressure was on psychologists and educators to recognize the special needs of this group of handicapped children. Hasty and inadequate diagnostic procedures prevailed. In some cases, children were diagnosed on the basis of a test of intellectual functioning and a Bender Motor Gestalt Test. School boards were faced with the dilemma caused by the increasing number of identified children in contrast to the limited appropriate facilities available to accommodate them. With the growing confirmation of "learning disability" as a more palatable diagnostic entity than "mental retardation" or "emotional disturbance", the situation did not improve. Often, school psychologists were placed in the position of having to prove that the child did not have a learning disability.

A frequent complaint of teachers in Special Learning Disabilities Classes was that the information provided in psychological reports was minimal, often filled with jargon, and essentially not amenable to translation into prescriptive remedial programs. Moreover, there was considerable variability among psychologists in how children were assessed. Consequently, some children were misdiagnosed, with the result that they were not provided with educational programming suited to their needs. This situation was certainly not unique to any one school board. The most obvious need was for a methodology which would ensure accurate and objective assessment.

Rationale

Any diagnostic process should culminate in appropriate treatment. Particularly with regard to exceptional children, obtained findings should facilitate remediation as well as provide criteria for reviewing the child's progress. These prerequisites can be achieved only through specificity in assessment (Goodman and Goodman, 1971).

The first step in the approach that follows was a thorough examination of the literature, where the emphasis was given to a psychoeducational framework. In contrast, a neuropsychological orientation tends to deal with brain functions and their effects on learning. While the contributions of the etiological approach to learning disability are recognized, efforts in that area have concentrated on localization of brain lesions and their behavioral correlates (Reed, Reitan, and Kløve, 1965; Reitan, 1959). Generally, information derived from such studies has limited direct application to the classroom.

Much of the literature in the late 1960s stressed the importance of "a diagnostic-remedial approach to children's problems" (Clements, 1969). For example, a major task force emphasized the need for objectivity and accuracy in the identification and assessment of children with learning disabilities (Chalfant and Scheffelin, 1969). Without competent screening and objective criteria, it is difficult to distinguish specific learning disabilities from sensory or cultural deprivation, or from delayed development due to mental retardation (Johnson and Myklebust, 1967). In the conclusion of a factor analytic study where it was determined that "minimal cerebral dysfunction" is not an homogeneous diagnostic

entity, Paine et al (1968) suggested that emphasis should be placed on "adequate psychoeducational assessment and rehabilitative programs, guided by assessment of each child's demonstrated assets and liabilities (p. 516)."

Consistent with the framework and criteria already established, an operational definition was required. The Council for Exceptional Children (Clements, 1969) defined the child with a learning disability as one "with adequate mental ability, sensory processes, and emotional stability who has specific deficits in perceptual, integrative, or expressive processes which severely impair learning efficiency. This includes children who have a central nervous system dysfunction which is expressed primarily in impaired learning efficiency (p. 2)."

Battery Development

In order to fulfill the noted requirements, a comprehensive approach was undertaken. This included an evaluation of tests that purported to diagnose learning skills as well as perceptual-motor difficulties. The following major areas were identified as those that may contain deficits affecting the learning process: gross motor; fine motor; visual perception; visual-motor co-ordination; auditory functioning; verbal functioning; and memory and attention span.

The Special Learning Disabilities teachers were then surveyed about their expectations, with particular reference to the kind of data they required about each child who was recommended for special programming. The need for information regarding areas of functioning involved in learning was emphasized, with an orientation toward reinforcing strengths rather than focusing exclusively on weaknesses.

A comprehensive portrayal of the child's social-emotional condition also was felt to be important.

The comprehensive assessment procedure[1] that was developed was a result of combining teacher expectations with the psychoeducational approach.

Assessment Procedure

Generally, the child who is presenting problems in learning is identified by school personnel. After obtaining information from teachers, parents, the child's academic records, and observing the child in the classroom, the psychologist usually follows a more refined and traditional procedure of objectively assessing intellectual and academic functioning. Where there is a discrepancy between these areas and the diagnostician is confident that the child is of at least average intellectual potential, examination for specific disorders should follow. In order to meet that requirement, a preliminary screening procedure is carried out by the psychologist at the local school. In this way the aforementioned identified major areas of functioning are explored. (see Appendix A).

Upon completion of the initial screening, the psychologist evaluates the data in order to decide what additional avenues are indicated. For example, if specific deficits are apparent in one or more of the basic areas of functioning, then the case is referred to the department's Assessment Centre, the location for administration of the

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[1]Acknowledgment is made to the major contribution made in this area by Hendrika Van de Vegte.

comprehensive battery. Prior to arranging an appointment, parents are asked to provide a developmental history. (see Appendix B).

The complete assessment (see Revised Battery, Appendix C) is then carried out and the examination focuses on those problem areas derived from the initial screening. Following the practice of establishing normative criteria on the basis of scores which fall one standard deviation beyond either side of the mean, a criterion of 15% of the subject's chronological age is used in the interpretation of test results. The findings are then portrayed in a detailed report which includes the student's various strengths and deficiencies in the designated skill areas. The results of the assessment are condensed in the form of a profile (see Appendix D) which is used as the basis for discussion in a case conference attended by staff members of the Assessment Centre and the psychologist assigned to the local school. Alternatives available regarding recommendations include placement in a Special Learning Disabilities program, either on a full-time or resource basis, or specific remedial assistance to be provided by the regular classroom teacher. The selected alternative is based on the nature and severity of the learning disability. Consideration is also given to evaluation of the child's social-emotional status, and the parent-child relationship. When the recommendation is implemented, the profile is provided not only to assist educational personnel in working with the child, but also as a basis for reviewing his progress.

Establishment and Extension of Norms[2]

During four years of experience, certain functional deficiencies of the battery were evident. In addition to problems that became apparent through clinical experience, there was concern that standardization procedures used for some tests were not commensurate with the usual technical requirements. Certain instruments were suspect because of questionable construct and face validity, and the norms for some tests covered a very limited age range. In other cases, the norms were outdated. Consequently, available norms were in need of extension and restandardization in order to be more representative of, and valid for, the school population. Some tests are used in the almost total absence of predictive validity data and sometimes with inadequate attention to reliability. A related problem is that of the efficiency-effectiveness ratio of instruments. Some diagnostic "batteries" are compiled and used with little systematic attention to increasing predictive efficiency. Since evaluative instruments are being published at an every increasing rate, it becomes more important that consumers have access to objective data on statistical characteristics of the tests. (Clements, 1969, p. 14).

Sample

Samples were drawn from grades one through six of North York elementary schools. Children from ages 6.0 to 11.11 were divided into subgroups at six-month intervals. In Phase I, the total sample size was 540 children, with 30 boys and 15

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[2]The study that follows was in part supported by the Board of Education for the Borough of North York.

girls assigned to each of the 12 age subgroups. In Phase II, there were 42 children at each age level, one-half boys and one-half girls, making a total of 504 children. Consistent with established definitions of learning disability, only children of average intellectual functioning were considered, this control achieved through screening using the Otis Quick Scoring Mental Ability Test (Otis, 1954). Children experiencing academic or other difficulties in school (defined as having been referred to the school psychologist or other school board or community services) were excluded from the sample. An equal distribution of the children in each age group was selected from high, middle, and low socioeconomic status (S.E.S.) backgrounds. S.E.S. was determined according to the father's occupation as defined by the Blishen Scale (Blishen, 1967).

Procedure

The study was carried out over a period of two years. During the first year, the following tests or subtests were selected for norming: Auditory Discrimination Test (Wepman, 1958); Target Test (Reitan, 1956); Verbal Absurdities, Pictorial Opposites, Free Association, Oral Directions, and Auditory Memory for Related Syllables of the Detroit Test of Learning Aptitude (Baker and Leland, 1967); Southern California Figure-Ground Visual Perception Test (Ayers, 1966); Revised Visual Retention Test (Benton, 1963); Echolalia of the Screening Test for Identifying Children with Specific Language Disabilities (Slingerland, 1962); and Visual Closure, Sound Blending, Auditory Closure, and Visual Association of the Illinois Test of Psycholinguistic Abilities (Kirk and McCarthy, 1968).

In the second year of the study the tests selected for restandardization were: Coloured Progressive Matrices (Raven, 1959); Peabody Picture Vocabulary Test (Ammons, 1959); the Maze (Reitan, 1956); Motor Steadiness Battery (Kløve, 1963); Purdue Grooved Peg Board (Repin, Tourk and Costa, 1966), and the North York Gross-Motor Control Test (Unpublished, 1967, based upon the Lincoln-Oseretsky Motor Development Scale, 1955, and the Purdue Perceptual-Motor Survey, 1966). For a brief description of the tests used in both Phases I and II, see Appendix G.

Findings and Discussion: Phase I

The overall North York norms are presented in Appendix J. In each case the data are portrayed according to age, sex, and socioeconomic status. The norms are also combined for males and females as well as by socioeconomic groups.[3]

Distribution of Scores

When the characteristics of the distributions of the scores on different tests are examined, the range of variability within some tests was limited. This finding applies to the I.T.P.A. Auditory Closure, the Detroit Pictorial Opposites, and the Benton Visual Retention Test. Consequently, with regard to future use, it was decided to omit the administration of these tests.

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[3]The authors express their gratitude to Mary Vander Goot for the assistance provided in the analysis of the data.

TABLE 1

Differences on the Target Test for Males and Females

Age Levels	$\bar{X}$ Males	$\bar{X}$ Females	t
6.0 - 6.5	9.6	10.5	-0.891
6.6 - 6.11	10.2	9.1	1.025
7.0 - 7.5	11.9	10.9	0.945
7.6 - 7.11	14.6	11.9	2.527*
8.0 - 8.5	15.1	12.5	2.651*
8.6 - 8.11	15.4	12.1	3.199*
9.0 - 9.5	16.4	14.6	1.716
9.6 - 9.11	17.0	15.4	1.874
10.0 - 10.5	16.5	17.3	-0.990
10.6 - 10.11	16.7	16.9	-0.145
11.0 - 11.5	17.4	18.1	-0.799
11.6 - 11.11	17.8	18.1	-0.482
All	14.9	13.9	2.578*

Note. - Means collapsed across socioeconomic groups.

d.f. = 43

*$p < .05$ (two-tailed test)

The following tests did not discriminate beyond the stated age levels: Sound Blending (7.6); Southern California Figure-Ground (9.6); Wepman Auditory Discrimination Test (7.6); Detroit Oral Directions (11.0). This observation can be made also by perusal of the normative data. However, for purposes of the revised battery, in the case of these tests a decision was made to continue their use beyond the stated age levels. The rationale for such a position is based on the premise that it is helpful to continue assessment in the case of older subjects, particularly where the skill in a specific area is suspected to be weak. Information derived from this approach to assessment is more informative, particularly if the child scores below the level beyond which the test no longer discriminates.

Males and Females

Few differences were found on the various subtests between means for males and females. Only on the Target Test were the differences significant at more than one age level. Specifically, these differences were at three age levels, as well as at all age levels combined. In each of these instances boys obtained higher scores. It is also of interest that the range of scores reaches a plateau for males at 9.6 to 9.11 age level, whereas the range extended for females to the 11.6 to 11.11 age level.

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Insert Table 1 about here

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These findings suggest that with the Target Test it is appropriate to use separate norms for boys and girls. The variability in range of scores for females indicates

TABLE 2

Differences Between High and Low Socioeconomic Groups

Test	$\bar{X}$ High	$\bar{X}$ Low	t
I.T.P.A. Sound Blending	22.14	18.61	5.19*
I.T.P.A. Auditory Closure	20.91	19.65	3.14*
Wepman Auditory Discrimination	2.61	2.58	0.11
Detroit Verbal Absurdities	23.49	19.79	3.13*
Detroit Oral Directions	7.15	5.24	3.82*
Detroit Free Association	60.25	61.65	-0.51
Detroit Memory for Related Syllables	55.76	51.99	2.22*
Slingerland Echolalia	21.09	20.17	2.83*
I.T.P.A. Visual Association	26.34	25.74	1.03
I.T.P.A. Visual Closure	28.24	28.46	-0.28
Benton Visual Retention	5.35	4.88	1.78
Detroit Pictorial Opposites	13.14	12.78	1.76
Reitan Target Test	14.64	14.76	-0.28
S. C. Figure Ground	18.22	18.19	0.06

Note. - Means collapsed across age groups and sex.

d.f. = 28

*$p < .05$ (two-tailed test)

that the Target Test can be used most confidently with girls nine and one-half years or older.

Socioeconomic

Differences among socioeconomic groups occurred only where the subtests involved auditory-verbal skills. In each case the higher S.E.S. group obtained a better mean score (see Appendixes E and F). For example, on the I.T.P.A. Sound Blending and Auditory Closure, the "high" S.E.S. group obtained better scores than the "middle" S.E.S. group. Similarly, the "middle" S.E.S. group had higher scores than the "low" S.E.S. group on the I.T.P.A. Sound Blending, the Detroit Verbal Absurdities, and the Detroit Oral Directions. An increased number of differences were apparent when the "high" and "low" S.E.S. groups were compared. The former obtained better scores on the I.T.P.A. Sound Blending and Auditory Closure, the Detroit Verbal Absurdities, Oral Directions, and Memory for Related Syllables, and the Slingerland Echolalia.

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Insert Table 2 about here

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The noted differences among the S.E.S. groups emphasize the need to take cultural-experiential factors into account when auditory-verbal skills are assessed. In other words, it might be erroneous to conclude that poor test scores are always indicative of a specific learning disability, when they may be simply related to environment.

TABLE 3

Intertest Correlations

Test	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Slingerland Echolalia													
2. Detroit Memory for Related Syllables	.452*												
3. I.T.P.A. Visual Association	.213	.430											
4. I.T.P.A. Visual Closure	.210	.468*	.503*										
5. Revised Visual Retention	.161	.371	.406	.423									
6. Detroit Pictorial Opposites	.183	.421	.449*	.459*	.431								
7. Detroit Free Association	.206	.502*	.502*	.630*	.423	.416							
8. Detroit Oral Directions	.273	.586*	.438*	.444*	.372	.400	.482*						
9. Detroit Verbal Absurdities	.301	.620*	.529*	.613*	.483*	.530*	.638*	.593*					
10. Reitan Target Test	.239	.460*	.498*	.527*	.466*	.443*	.489*	.457*	.581*				
11. Wepman Auditory Discrimination	-.211	-.350	-.297	-.288	-.277	-.316	-.349	-.306	-.353	-.307			
12. Southern California Figure Ground	.179	.388	.470*	.482*	.416	.441*	.429	.402	.455*	.450*	-.333		
13. I.T.P.A. Auditory Closure	-.243	.397	.408	.395	.307	.330	.400	.388	.435*	.333	-.356	.368	
14. I.T.P.A. Sound Blending	.330	.405	.404	.387	.327	.361	.435*	.395	.458*	.354	-.460*	.294	.416

*$p < .05$

Test Relctionships

Those tests which correlated most frequently with other tests were the I.T.P.A. Visual Association and Visual Closure, the Detroit Verbal Absurdities, and the Target Test. In contrast, the Wepman Auditory Discrimination Test did not correlate with any other test. The I.T.P.A. Auditory Closure correlated only with the Detroit Verbal Absurdities, and the Slingerland Echolalia only with the Detroit Memory for Related Syllables. The Revised Visual Retention Test correlated only with two other tests, the Detroit Verbal Absurdities and the Target Test.

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Insert Table 3 about here

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The large number of significent correlations, specifically 36 out of 91, reflects the high degree of relationship that exists among the tests. This finding raises the question about the extent to which there may be an overlapping of evaluation of comparable skills. Stated otherwise, although the child may undergo unnecessary assessment to achieve the same end result, it may be convenient to use alternative measures when the validity of the results is questionable. For example, if it is suspected that a child is performing poorly on a test of visual-motor co-ordination, for reasons other than a true visual-motor coordination problem, it may be helpful to explore other causal factors. This specific issue was taken into account in the original design of the battery and should be an important consideration in any procedure used in assessing learning disabilities.

The only instrument which does not relate to any of the restandardized

TABLE 4

Factor Analysis of Nine Selected Tests

Test	Factor Loading		
	I	II	III
	Tests with Highest Loading on Factor I		
I.T.P.A. Visual Association	0.663	0.082	0.337
I.T.P.A. Visual Closure	0.738	0.066	0.318
Reitan Target Test	0.720	0.196	0.312
Southern California Figure Ground	0.752	0.108	-0.051
Detroit Free Association	0.680	0.086	0.442
Detroit Verbal Absurdities	0.714	0.314	0.312
Detroit Oral Directions	0.605	0.430	0.139
	Tests with Highest Loading on Factor II		
Slingerland Echolalia	0.021	0.888	0.168
Detroit Memory for Related Syllables	0.532	0.647	0.145
	Tests with Highest Loading on Factor III		
I.T.P.A. Sound Blending	0.209	0.253	0.877

tests is the Wepman Auditory Discrimination Test. This finding confirms the uniqueness of the skill involved. It is appropriate to continue the use of this tool in assessing suspected learning disabilities because the ability to discriminate familiar speech sounds appears to be an important component of learning.

Factor Analysis

Factor analytic computations assist in minimizing data redundancies through the systematic analysis of relationships among a variety of measures. Such a study was carried out to investigate the potential common characteristics among selected tests, particularly because of the large number of significant correlations among the tests (39.5%).

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Insert Table 4 about here

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Three main factors emerged. Factor I can be classified as a "reasoning" factor because it loads heavily on both visual and auditory-verbal reasoning and memory. In contrast, Factor II is specifically an "auditory-sequencing" factor because all the tests included involve the repetition of verbal stimuli in a sequential order. Factor III, sound blending, the ability to combine speech sounds to make a complete word, is comprised solely of the I.T.P.A. Sound Blending subtest. Since this test did not load with any other variable, it appears to be unrelated to other skill areas, as was the case with the Wepman Auditory Discrimination Test.

It would appear that reasoning is a pervasive process in the present method used to diagnose learning disabilities. This general finding lends support

to the obvious notion that reasoning plays a major part in learning efficiency. Conversely, as evidenced by Factor I (see Table 4), a learning disability may reflect a reasoning deficiency. Such an orientation is expressed by Clements (1969) in his emphasis on the importance of "the integrative or expressive processes which severely impair learning efficiency (p. 2)."

Findings and Discussion: Phase II[4]

Peabody (Form A)

The mean I.Q. score for the total sample of 504 children was 105.96. The mean I.Q. for males was 109.3, and 102.6 for females. This difference is statistically significant at the .05 level of confidence. There is no apparent explanation to account for the discrepancy between the sexes. It is interesting to note that the absence of any sex differences was one of the criteria for the choice of words used in the construction of the test. The mean I.Q. scores for the three socioeconomic groups were 108.14, 106.85, and 102.90 for the high, middle, and low S.E.S. groups, respectively. None of these differences are significant.

Coloured Progressive Matrices

The present sample achieved significantly higher scores than their counterparts in the original standardization group. The mean raw score for each

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[4]Thanks are extended to Ilmar Kasekamp for assistance in the collection and analysis of data.

level was approximately one standard deviation above the score equivalent to the 50th percentile in the manual. Stated otherwise, the average 7-year-old scored at approximately the same level as the average 8-and-one-half-year-old in the original sample.

The Coloured Progressive Matrices was designed for the 5- to 11-year age range. In the present study the upper limit of 11 years was confirmed by the levelling of scores from age 10.6 and above. There were no statistically significant differences between males and females at any age level on this test. However, there was a significant difference between the high and low S.E.S. groups ($p < .05$). The discrepancy between the present findings and those provided by the test author indicates the need for a broader restandardization, specifically because of the wide use made of the test due to the emphasis placed on its culture-free component.

Motor Steadiness Battery

Maze. The mean score for maze speed did not discriminate sufficiently among the age groups. Specifically, the difference between the mean scores for age 6.0 and age 11.6 was approximately one standard deviation. In contrast to the finding for maze speed, the mean scores for maze timer and counter provide reasonable discrimination among the age groups. In other words, in the case of both of the latter tests, the mean scores are inversely proportional to age. This finding is in the expected direction when time and speed are the experimental variables.

Progressive holes. The distribution of scores on the Holes timer and

counter also provides reasonable discrimination among the age groups. However, beyond age 10.6 the scores levelled off with no significant differences among the means for ages 10.6 to 11.11. It is apparent that there is no advantage to using all nine holes with children 9.0 and above. The scores for the first four holes discriminate sufficiently for all age groups to age 10.6.

Grooved pegboard. Very few children made even one error (i.e. dropping a peg). Consequently, the occurrence of an error in itself could be indicative of a problem in hand steadiness. There was less dispersion among the mean scores than on the Maze and Holes, but these scores were distributed over a relatively small range. However, there was sufficient variability in mean scores to discriminate clearly up to age 9.0. Beyond that age group the scores levelled off regardless of the number of pegs used (10 or 25). It follows that the use of the first 10 holes is sufficient for administration to all age groups.

Test Relationships

The correlations between the Peabody Picture Vocabulary Test and the Coloured Progressive Matrices is .557, ($p < .05$), accounting for at least 50% of the variance (using Fisher's r to z transformation).

The correlations between Maze counter and Holes counter and Maze timer and Holes timer were .578 and .651 respectively, also significant at the .05 level of confidence (using Fisher's r to z transformation). These results reflect a strong relationship between fine motor steadiness in movement and in static position. In contrast, the correlations between both Maze timer and Maze speed and Maze counter and Maze speed were not significant. There is an apparent lack of

TABLE 5

Chi Square Values for Children Ages 6.0 to 11.11 Divided into Half-Year Age Groups on the Gross Motor Battery (N= 42 for each Group)

Task	χ^2
Hopping on one foot	.00
Skipping	13.5[illegible]
Walking on tiptoe	.00
Walking backwards heel-to-toe	59.64***
Touching nose with eyes closed	.00
Rhythmic movements	70.05***
Jumping over 16" barrier	45.45***
Catch ball with one hand	162.17***
Jump and turn 180°	36.02***
Target throw	105.72***
Angels-in-the-Snow left arm and left leg	35.47***
Angels-in-the-Snow right arm and right leg	34.04***
Angels-in-the-Snow right arm and left leg	43.98***
Angels-in-the-Snow left arm and right leg	32.94***
Balancing in semi-crouch: eyes closed	.00
Balance with foot against knee: eyes open	23.28**
Balance on one foot: eyes closed	49.46***
Balance heel-to-toe: eyes closed	19.72*
Balance on tiptoe: eyes closed	43.06***

*$p < .05$

**$p < .02$

***$p < .001$

relationship between hand steadiness and hand speed, as assessed by these tasks. The correlation between Maze speed and pegboard speed also was not significant. Although it would be expected that speed of tracking and speed of manipulation of objects would be highly related, the correlation between maze speed and pegboard speed was not significant.

Gross Motor Battery

There were four tests on which practically all children in every age group were successful: hopping on one foot, walking on tiptoe, touching nose with eyes closed, and balancing in a semi-crouch position: eyes closed.

The Chi-square distribution of the remaining gross motor tasks indicates that successful performance is directly proportional to chronological age. (see Appendix I). There were no differences among the three S.E.S. groups on any of the gross motor tasks, nor was there any significant difference between boys and girls, based on a Chi-square analysis. However, almost all the girls from age 6.0 and above could skip, whereas a considerable number of boys at age 9.6 could not skip. This finding may simply reflect the fact that skipping is not a common activity for boys.

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Insert Table 5 about here

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Walking backwards heel-to-toe was passed by almost all children from age 7.0 on. At the 6.0 and 6.6 age levels, approximately 75% of children passed this test.

Rhythmic movements were completed successfully by 55% of the 6.0 age group. From aaes 6.6 to 8.6, approximately 82% of children passed this task. All children 9.0 years and older were successful.

Jumping over 16" barrier yielded results similar to walking backwards, i.e. 80% of children at 6.0 and 6.6 passed, and all children 7.0 and older passed.

Angels-in-the-Snow. Ninety per cent of children in the 6.0 and 6.6 age groups passed the first part of this test, where the limbs on the same side of the body are to be moved. All children age 7.0 and older passed this part of the test. When limbs on the opposite sides of the body are to be moved, only 70% of children in the 6.0 to 7.6 age groups were successful. For ages 8.0 and older, the results were variable, ranging from 80% to 95% success, yet in a nonsystematic fashion. For example, the 8-year-olds performed better than 10.6-year-olds.

Catch ball with one hand. The success ratio on this task increased proportionately with age. Specifically, it was 50% at the 7.0 age level, 60% at the 7.6 age level, 70% at the 8.0 and 8.6 age levels, and 90% from age 9.0 and above. Although there was no overall significant difference between males and females, only 20% of the girls, in contrast to 40% of the boys in the 6.0 and 6.6 age groups passed this task.

Jump and turn 180°. The pass rate was 60% for age 6.0; 65% for age 6.6 to 8.0; 75% for age 8.6; 82% for age groups 9.0 to 10.6; and over 90% for age groups 11.0 and 11.6. In the 6.0 age group, 75% of the females passed in contrast to 50% of the males. The corresponding figures for the 6.6 age group were 85% and 50% respectively.

Target throw. The overall pass rate on this task was as follows:

Ages 6.0 to 6.6 - approximately 25%

Ages 7.0 to 7.6 - approximately 40%

Ages 8.0 to 8.6 - approximately 50%

Although the sex difference was not significant, this was the only gross motor task where the performance of males was consistently better than that of females.

Ages 9.0 to 9.6 - approximately 60%

Age 10.0 - approximately 75%

Ages 10.6 to 11.0 - approximately 85%

Age 11.6 - approximately 90%

Balance with foot against knee: eyes open. Results were variable, as can be observed from the following overall pass rate:

Age 6.0 - approximately 75%

Age 6.6 - approximately 60%

Ages 7.0 to 9.0 - approximately 75%

Age 9.6 - approximately 85%

Age 10.0 - approximately 75%

Ages 10.6 to 11.6 - approximately 85%

Balance on one foot: eyes closed. There was no consistent sex difference in this task. The overall pass rate was as follows:

Age 6.0 to 6.6 - approximately 50%

Ages 7.0 to 8.0 - approximately 60%

Ages 8.6 to 9.0 - approximately 75%

Age 9.6 - approximately 95%

Ages 10.0 to 10.6 - approximately 75%

Ages 11.0 to 11.6 - approximately 85%

Balance heel-to-toe: eyes closed. This task was quite difficult, even for the older age groups, with only approximately 70% successful at the 11.6 age level. Overall pass rate was as follows:

Ages 6.0 to 7.6 - approximately 45%

Ages 8.0 to 9.6 - approximately 60%

Age 10.0 - approximately 75%

Age 10.6 - approximately 60%

Ages 11.0 to 11.6 - approximately 70%

Balance on tiptoe: eyes closed. This task also was quite difficult for all age levels, with only approximately 65% of children being successful at the 11.6 age level. The overall pass rate was as follows:

Age 6.0 - approximately 25%

Ages 6.6 to 8.0 - approximately 35%

Age 8.6 - approximately 45%

Ages 9.0 to 10.6 - approximately 55%

Ages 11.0 to 11.6 - approximately 65%

Implications for Further Research

1. In the present battery, the Target Test is used for purposes of assessing visual-motor memory. Because of the significant differences that were found

between males and females, it is conceivable that such differences exist in the case of other tests which purport to assess visual-motor memory. The appropriateness of further study to examine this area is apparent.

2. Confirmation of the relationship between S.E.S. and auditory-verbal skills indicates the need for further exploration of cultural-experiential factors as they relate to the assessment of learning skills. Ideally speaking, it would be beneficial if clinicians were able to differentiate between assessment results which are culturally derived as distinct from those which relate to a specific dysfunction.

3. The high degree of intertest relationships raises the obvious question of possible duplication of method for assessment of a given skill area. Additional research to accumulate reliability data would be valuable in this regard.

4. The number of significant correlations among the different tests illustrates the appropriateness of comparable analysis to include all parts of the battery. A more comprehensive factor analysis would serve as a basis for a clearer differentiation of the components. A primary outcome of such an endeavour could lead to an abbreviation of the present battery.

5. Where a test or subtest loads only on one factor (i.e. Auditory Discrimination and I.T.P.A. Sound Blending), further study is required to determine if such tests provide distinct measures of specific skills. It would be valuable also to evaluate the ways in which impairment of these skills affect learning.

6. It is evident from the factor analytic results of a major part of the present battery that reasoning is a pervasive process. Regardless of the approach taken to the assessment of suspected learning disabilities, it is conceivable that reasoning

plays a major role. Additional factor analytic-oriented research should assist in determining whether this is a tenable hypothesis.

7. It would be of interest to explore further the relationship between specific fine motor skills and academic achievement. For example, if such a relationship exists, the legitimacy of placing emphasis on this area would be confirmed, as opposed to the existing approach which is based on speculation.

8. The most pronounced finding with regard to the gross motor tasks is the lack of a sequential and consistent developmental pattern. This finding may be inevitable because of the scoring method which is simply pass-fail. The diagnostic value of gross motor assessment remains an open question. Comprehensive exploration of this area should be a priority for additional research in learning disabilities.

Summary

Variability in diagnostic procedures for assessing children with learning disabilities, as well as the lack of adequate measures, were both important factors which led to the development of the present research. The need for objectivity and consistency in this regard is emphasized by both educators and diagnosticians. Consistent with a psychoeducational framework and an operational definition of learning disability, a comprehensive assessment procedure was developed. This battery provides a profile of performance, including specific disorders affecting the learning process. The approach also facilitates the selection of remedial activities.

Certain deficiencies were obvious in the formative stages of the battery development. The need for a restandardization of norms became apparent. Some

tests were not commensurate with the usual technical requirements, whereas others provided outdated norms, frequently for a very limited age range. In addition, based on clinical experience, the face validity of some of the instruments became suspect.

The restandardization occurred with children ages 6.0 years to 11 years, 11 months, at six-month intervals, with controls for I.Q., S.E.S., and sex. In addition to the establishment of norms, the data supported the expected relationship between visual and auditory-verbal cognitive functions, as well as between memory and attention span. Few differences were noted on the various subtests between means for males and females. Certain tests were found not to discriminate adequately at specific age levels because of limited range and/or wide variability of scores. Socioeconomic level was confirmed as an important variable, particularly when auditory-verbal functions are assessed. Based on these findings, a number of implications for further research were noted.

Certain revisions to the battery have been implemented. Hopefully, this approach to the assessment of learning disabilities will lead to an increased understanding of the essential ingredients and a breakdown of the different variables that enter into problem-learning areas. The development of norms is a first step in the direction of objectivity and precision.

APPENDIXES

Appendix	A	Initial Testing for Suspected Learning Disabilities
	B	Developmental History
	C	Specific Learning Disabilities Test Profile (Revised Battery)
	D	Profile of Strengths and Weaknesses
	E	Differences between High and Middle Socioeconomic Groups
	F	Differences between Middle and Low Socioeconomic Groups
	G	Description of the Tests
	H	Gross Motor Scoring Form
	I	Motor Steadiness Battery Scoring Form
	J	Tables of Norms

APPENDIX A

INITIAL TESTING FOR SUSPECTED LEARNING DIFFICULTIES

Name _____ D.O.B. _____ Age _____
Day Mo. Year

School _____ Grade _____ Psychologist _____

Date(s) of school testing _____

Date referred to Assessment Centre _____
Day Mo. Year

INTELLECTUAL FUNCTIONING

WISC: Full Scale I.Q. _____ Verbal I.Q. _____ Performance I.Q. _____

Scaled Scores		Scaled Scores	
Information	_____	Picture Completion	_____
Comprehension	_____	Picture Arrangement	_____
Arithmetic	_____	Block Design	_____
Similarities	_____	Object Assembly	_____
Vocabulary	_____	Coding	_____
Digit Span	_____		

OR

If WPPSI given, fill out of above list only appropriate categories, plus:

Verbal Scaled Scores		Performance Scaled Scores	
Sentences	_____	Animal House	_____
		Mazes	_____
		Geom. Design	_____

ACADEMIC FUNCTIONING

Wide Range Achievement Test Date _____

Reading	Grade _____	St. Sc. _____
Spelling	Grade _____	St. Sc. _____
Arithmetic	Grade _____	St. Sc. _____

VISUAL-MOTOR CO-ORDINATION

Bender Gestalt: (Koppitz Scoring System) M.A. range _____ to _____

Rutgers Drawings, Form A: M.A. range _____ to _____
(in addition to Bender if child below 8 years)

Draw-a-Person: (Goodenough Scoring System) M.A. range _____ to _____

Frostig Developmental Test: (2 subtests)

Eye-hand Co-ordination M.A. _____ Scaled Score _____
Spatial Relations M.A. _____ Scaled Score _____

VISUAL PERCEPTION

Frostig Developmental Test: (1 subtest)

Position in Space M.A. _____ Scaled Score _____

Illinois Test of Psycholinguistic Abilities - 1968:

Visual Reception M.A. _____
Visual Closure M.A. _____
Visual Association M.A. _____

Mean M.A. of all _____

AUDITORY-VERBAL FUNCTIONING

Wepman Auditory Discrimination Test: Errors _____

Illinois Test of Psycholinguistic Abilities - 1968:

Grammatic Closure M.A. _____
Auditory Assoc. M.A. _____
Sound Blending M.A. _____

Mean M.A. of all _____

Peabody: I.Q. _____
M.A. _____

ATTENTION SPAN

Illinois Test of Psycholinguistic Abilities - 1968:

Visual Sequential M.A. _____
Audit. Sequential M.A. _____

Benton Visual Retention Test: Test Range _____

1. Observations during testing: _____

2. Results of projective testing and/or parent interview: _____

3. A brief statement of the child's problem as you see it: _____

APPENDIX B

To parent or guardian:

The following questionnaire has been developed for the purpose of providing relevant information about your child's developmental history. Such information may be of great importance, both in determining the causes of the present difficulties, and in making appropriate recommendations to the school.

Please feel free to add any comments or explanatory remarks. It should be noted that you need not answer any questions which, in your opinion, infringe on your privacy or appear irrelevant to your child's problem. All information given in this questionnaire will be considered strictly confidential.

D E V E L O P M E N T A L H I S T O R Y

I. FAMILY AND HOME

(a) Family

Child's Name_____School_____

Address_____Birthdate_____

Father's Name_____Age_____ Educ. to Gr._____ Occupation _____

Mother's Name_____ " _____ " _____ _____

Either parent separated, divorced or widowed? Describe and give dates.

_____

Children (including subject and other children no longer living)	Sex	Age	Grade	Comments (list notable abilities and disabilities
1._____	___	___	_____	_____
2._____	___	___	_____	_____
3._____	___	___	_____	_____
4._____	___	___	_____	_____
5._____	___	___	_____	_____
6._____	___	___	_____	_____

If any of the above children are adopted, or step-children, give name, age at adoption, and details:_____

_____

Other people participating in household:_____

_____

Other people in same house:_____

_____

(b) Home

Number of rooms in use_____

Sleeping accommodation for subject: Own room - Yes ____ No ____
Own bed - Yes ____ No ____

Play/study accommodation: Living room - Yes ____ No _____
Separate room - Yes ____ No _____

How often has the child changed residence since birth_____times?

(c) Relatives

Place check mark for any of the following conditions if they apply (or did apply) to any of the parents, grandparents, or parents' siblings:

Diabetes	_____	Allergies	_____
Epilepsy	_____	Speech problems	_____
Retardation	_____	Reading/Spelling problems	_____
Mental Illness	_____	Visual problems	_____
Muscular diseases	_____	Hearing problems	_____
Other ?	_____		

(d) Special Circumstances

Place check mark in appropriate column if applicable.

	Father	Mother	Siblings	Others in Home
Past Illness	_____	_____	_____	_____
Present Health or Handicaps	_____	_____	_____	_____
Prolonged Absences from the Home	_____	_____	_____	_____
Special Dislikes	_____	_____	_____	_____

Describe special circumstances, if checked in column(s), in detail:

_____

_____

_____

_____

Languages other than English spoken at home?

Between father and mother, the _____ language
Between father and children, the _____ language
Between mother and children, the _____ language
Among children, the _____ language

Has child ever lived other than with parents? _____ If so, give details:

_____

_____

_____

Has child had previous psychological or psychiatric examination? _____ If so, give details:

_____

_____

_____

Has child had any tutoring, or other professional help? _____ If so, give details:

_____

_____

II. EARLY DEVELOPMENT

(a) Pre- and Postnatal Factors

Pregnancy:

Describe mother's health _____

_____

_____

Term of pregnancy: _____ months.

Medication during pregnancy: _____

Post-Delivery health of mother: _____

_____

Delivery:

Duration of delivery _____hours. Describe any unusual conditions during delivery:

_____

_____

Describe any unusual condition of the newborn:

_____

_____

Weight of child: _____lbs. _____oz.

If unusual conditions existed, do you have objection to the attending physician supplying pertinent information? Yes___ No___

Name and address of physician:_____

_____

(b) Infancy - (Check only those items that apply).

- Difficulty in establishing a regular feeding routine _____
- Chronic difficulty with digestion _____
- Food allergy _____
- Difficulty in establishing regular sleeping habits _____
- Required very little sleep _____
- Required excessive amount of sleep _____
- Excessive amount of crying _____
- Seldom or never cried _____
- Extremely active - constantly on the move _____
- Very placid and inactive _____
- Socially outgoing - not afraid of people _____
- Overly fearful response to people _____
- Rapid physical growth _____
- Very slow rate of physical growth _____

If any of the above conditions are checked, describe below in detail:

_____

_____

_____

_____

General Comments about infancy period:_____

_____

_____

_____

(c) Developmental Milestones

Place check mark.	Early	Average	Late
Smiling	____	_____	____
Sleeping through night	____	_____	____
Reaching for objects	____	_____	____
Sitting unaided	____	_____	____
Pulling to standing	____	_____	____
Creeping	____	_____	____
Walking alone	____	_____	____
Accepted solid food	____	_____	____
Fed self with spoon	____	_____	____

Bowel training started	Approximate age:	____
Bowel training completed	"	____
Bladder training started	"	____
Bladder training completed	"	____
First use of words	"	____
First use of sentences	"	____
First use of clear speech	"	____

III. HEALTH FACTORS

(a) Illnesses	Yes	At Age	Hospitalized? (Yes or No)
Contagious diseases? Type?_____	____	_____	_____
Ear infection	____	_____	_____
Eye infection	____	_____	_____
Nose infection	____	_____	_____
Throat infection	____	_____	_____
Other infections	____	_____	_____
Severe dehydration	____	_____	_____
High fevers	____	_____	_____
Convulsions	____	_____	_____
Encephalitis	____	_____	_____
Meningitis	____	_____	_____
Asthma	____	_____	_____
Allergies	____	_____	_____
Bedwetting	____	_____	_____
Soiling	____	_____	_____

	Yes	At Age	Hospitalized? (Yes or No)
Visual defects	___	_____	_____
Hearing defects	___	_____	_____
Other illnesses?	___	_____	_____

Type?_____

Describe details of aforementioned or related factors:_____

_____

_____

(b) Accidents

	Yes	At Age	Hospitalized? (Yes or No)
Poisoning (drugs etc.)	___	_____	_____
Head injuries	___	_____	_____
Concussions	___	_____	_____
Car accidents	___	_____	_____
Falls	___	_____	_____
Other accidents?	___	_____	_____

Type?_____

Describe details if necessary:_____

_____

(c) Operations Yes_____ At age_____

Give details of hospitalization (duration, child's behavior, etc).

_____

_____

(d) Present Health

Height _____ Weight _____ Any Special Diet_____

Any medication?_____

_____

_____

IV. BEHAVIORAL DATA

(a) Pre-School Behavior

Please check only those items that apply, and double-check items that are most chracteristic.

Resisted toilet training	___	Very quickly toilet trained	___
Resisted being in playpen	___	Enjoyed himself in playpen	___
Resisted naps, early bedtime	___	Frequently fell asleep in daytime	___
Socially outgoing	___		
Reckless, tried anything	___	Withdrawing	___
Irritable, temper tantrums	___	Anxious, fearful	___
Cuddly, seeking physical contact	___	Very placid	___
Accident prone	___	Independent	___
Mostly played indoors	___	Overly careful	___
Opportunity for many playmates	___	Mostly played outdoors	___
Played only with siblings	___	No playmates at all	___

Mother worked: _____ Had baby-sitter - in own home _____
in other home _____

Attended nursery school?_____Did not attend nursery school___

Name of nursery school:_____

Address:_____

General comments about pre-school period:_____

_____

_____

(b) Behavior during school years

Please check only those items that apply, and double-check those items that are most characteristic.

Enjoyed Kindergarten	____	Resisted Kindergarten	____
Enjoys going to school	____	Says he dislikes school	____
Submissive with peers	____	Aggressive with peers	____
Destructive with toys	____	Keeps toys for years	____
Negativistic, defiant	____	Very obedient	____
Impulsive, does not think of consequences	____	Deliberate, planned behavior	____
Says school is too hard	____	Says school is too easy	____
Aggressive with siblings	____	Passive with siblings	____
Quick-tempered	____	Tolerant	____
Wanders off during trips	____	Always keeps parents in sight during trips	____
Never spent one night away from home	____	Summer camp or other week-long holidays away from home	____
Kept friend(s) for more than one year	____	Daydreamer	____
Explosive behavior on little mishaps	____	Easily distracted	____
Cannot sit through a half-hour T.V. program	____	Quickly discouraged	____
Can easily find excuses when at fault	____	Cries easily	____
Never seems to worry, carefree	____	Stealing	____
Had trouble learning names of colours	____	Lying	____
Does not like to get hands dirty	____	Fire-setting	____
Constantly picks up, fiddles with objects	____	Running away	____
Consistently good memory	____	Cruelty to animals	____
Over-excited in group play	____	Thumb-sucking	____
"Freezes" when anxious	____	Nail-gnawing	____
Never stops right away when told to do so	____	Body rocking	____
Afraid of dark, certain animals	____	Head banging	____
Loses belongings often	____	Sleep walking	____
Goes in cycles of good/bad moods	____	Nightmares	____
Over-active, restless	____	Teeth-grinding	____
Often repeats himself	____	Restless sleep	____
Very persistent, stubborn	____	Stammers at times	____
		Perseverative behavior	____
		Scolded often	____
		Spanked often	____
		Isolated	____
		Complains to parents about siblings	____
		Disciplined by father	____
		Disciplined by mother	____
		Has difficulty walking, running, holding or catching things	____
		Has special difficulty with one subject	____

(c) Social Activities and Hobbies

At present involved in:

Church Groups_____Cubs/Scouts/Guides_____

Music/Art Lessons_____Hobby Clubs_____

Sports Activities_____Any other activities_____

Please comment in general about present behavior:

_____

_____

V. ADDITIONAL COMMENTS

Other relevant information (e.g. developmental, medical, legal, social) pertaining to the family that will assist our understanding of your child:

_____

_____

_____

Please provide a statement of the child's problem as you, as parents, see it and your ideas regarding how to cope with it:

_____

_____

_____

_____

APPENDIX C

SPECIFIC LEARNING DISABILITIES
TEST PROFILE

NAME _____ SCHOOL _____

D.O.B. _____ AGE _____ GRADE _____

Date(s) of School Testing: _____

Assessment Centre psychologist: _____

Pertinent factors:
Family: (parents, siblings, relatives: parent's attitudes, social data)

Physical factors: (pre- and post-natal, infancy, milestones, health, general)

Behaviour descriptions: (as in past and/or present, according to school, parents, teachers, psychologist, etc.)

Academic: (strengths, weaknesses, according to teachers, etc.)

ASSESSMENT CENTRE AGE CONVERSION TABLE
(M.A. ± 15 percent)

- 15%	Age	+ 15%	- 15%	Age	+ 15%
5- 1	6- 0	6-11	7- 3	9- 0	10- 4
5- 2	6- 1	7- 0	7- 9	9- 1	10- 5
5- 3	6- 2	7- 1	7- 9	9- 2	10- 7
5- 4	6- 3	7- 2	7-10	9- 3	10- 8
5- 5	6- 4	7- 3	7-11	9- 4	10- 9
5- 5	6- 5	7- 5	8- 0	9- 5	10-10
5- 6	6- 6	7- 6	8- 1	9- 6	10-11
5- 7	6- 7	7- 7	8- 2	9- 7	11- 0
5- 8	6- 8	7- 8	8- 3	9- 8	11- 1
5- 9	6- 9	7- 9	8- 3	9- 9	11- 3
5-10	6-10	7-10	8- 4	9-10	11- 4
5-11	6-11	7-11	8- 5	9-11	11- 5
5-11	7- 0	8- 1	8- 6	10- 0	11- 6
6- 0	7- 1	8- 2	8- 7	10- 1	11- 7
6- 1	7- 2	8- 3	8- 8	10- 2	11- 8
6- 2	7- 3	8- 4	8- 9	10- 3	11- 9
6- 3	7- 4	8- 5	8- 9	10- 4	11-11
6- 4	7- 5	8- 6	8-10	10- 5	12- 0
6- 4	7- 6	8- 8	8-11	10- 6	12- 1
6- 5	7- 7	8- 9	9- 0	10- 7	12- 2
6- 6	7- 8	8-10	9- 1	10- 8	12- 3
6- 7	7- 9	8-11	9- 2	10- 9	12- 4
6- 8	7-10	9- 0	9- 2	10-10	12- 5
6- 9	7-11	9- 1	9- 3	10-11	12- 7
6-10	8- 0	9- 2	9- 4	11- 0	12- 8
6-10	8- 1	9- 4	9- 5	11- 1	12- 9
6-11	8- 2	9- 5	9- 6	11- 2	12-10
7- 0	8- 3	9- 6	9- 7	11- 3	12-11
7- 1	8- 4	9- 7	9- 8	11- 4	13- 0
7- 2	8- 5	9- 8	9- 8	11- 5	13- 2
7- 3	8- 6	9- 9	9- 9	11- 6	13- 3
7- 4	8- 7	9-10	9-10	11- 7	13- 4
7- 4	8- 8	10- 0	9-11	11- 8	13- 5
7- 5	8- 9	10- 1	10- 0	11- 9	13- 6
7- 6	8-10	10- 2	10- 1	11-10	13- 7
7- 7	8-11	10- 3	10- 2	11-11	13- 8

INSTRUCTIONS:

1. Use pencil.
2. Complete 1st page and insert testing scores where indicated by asterisk.
3. Write in C.A. and average age range (from conversion table) on each page of profile.
4. Use the new norms where applicable.
5. For standard scores (e.g. WISC):

9-11	Average Range
8	Borderline Low Average
12	Borderline High Average

KEY TO TEST CODE LETTERS

A	- Assessment Centre Tests - Almore Annex
D	- Detroit Test of Learning Aptitude
F.	- Farnsworth Dichotomous
F	- Frostig Developmental Test
H.	- Harris Test of Lateral Dominance
H	- Hawthorne Concept Scale
I -ITPA	- Illinois Test of Psycholinguistic Abilities
MS	- Motor Steadiness Battery
N	- Nebraska Test of Learning Aptitude
P -PIT	- Pictorial Intelligence Test
R	- Reitan Battery
SC	- Southern California Tests
W -WISC	- Wechsler Intelligence Scale for Children
W -WPPSI	- Wechsler Preschool and Primary Scale of Intelligence
PIAT	- Peabody Individual Achievement Test
G-F-W	- Goldman-Fristoe-Woodcock Test of Auditory Discrimination

Description of Test	Name of Test	Age Range of Test	Child's C.A. ..... yrs Aver. Range ± 15% C.A.		- 15% ...	yrs	+ 15% ...
			To Do	M.A. or Score	-Av	Av	+Av
INTELLECTUAL FUNCTIONING							
Overall intelligence	WISC or WPPSI	5-16					
Verbal intelligence	WISC or WPPSI -Verbal Sc.	5-16					
Visual-performance intelligence	WISC or WPPSI -Perf. Sc.	5-16					
Abstract reasoning:							
with verbal material	W. Similarities	5-16					
	I. Audit. Association	2-11					
	D. Verbal Opposites	5-16					
with visual material	I. Visual Association	6-11[6]					
	Raven	6-10[6]					
with object material	W. Block Design	5-16					
	Leiter	2-20					
	Alexander Passalong	8-16					
Social-practical reasoning:							
with verbal material	W. Comprehension	5-16					
	D. Verbal Absurdities	5-16					
	H. Personal Information	5-13					
with visual-representational material	W. Picture Arrangement	5-16					
	D. Pictorial Absurdities	3-10					
Concept formation:							
with verbal material	W. Vocabulary	5-16					
	Peabody	6-11[6]					
Other Tests:							

Description of Test	Name of Test	Age Range of Test	Child's C.A. .....yrs Aver.Range ± 15% C.A. To Do	M.A. or Score	- 15% ... -Av	yrs Av	+ 15% ... +Av
MOTOR CONTROL							
GROSS-MOTOR CONTROL:							
Co-ordination of movements	A.Centre Gross-motor scoring form	6-11[6]					
Balancing activities	" " " "	6-11[6]					
FINE-MOTOR CONTROL.							
Steadiness of Hands:							
tracking movements	M-S battery; Maze; mean of T & C	5-14					
	F. Eye-hand Co-ordination	3-8					
	S.C. Motor Accuracy Test	4-8					
static position	M-S battery; Holes; T & C	5-14					
manipulation of objects	M-S battery; Pegboard; errors	5-14					
Speed of hand movements:							
tracking movements	M-S battery; Maze; speed	5-14					
manipulation of objects	M-S battery; Pegboard; speed	5-14					
LATERALITY:							
dominance - hand	Harris Lateral Dominance	all					
dominance - feet	M-S battery score comparison	5-14					
discrimination (conceptual)..	H. Laterality	5-13					
	Piaget Laterality Tests	5-12					
Other Tests:							

Description of Test	Name of Test	Age Range of Test	Child's C.A. .....yrs. Aver. Range ± 15% C.A. To Do	M.A. or Score	− 15% ... -Av	yrs Av	+ 15% ... +Av
VISUAL PERCEPTION							
Acuity of Vision:	Medical information	all					
	Titmus Test	all					
Color perception:	Dvorine Color Plates	all					
	Farnsworth Dichotomous	all					
	Color naming, A.Centre test (#1)	all					
Perception of:							
pictures	I Vis. Reception	2-11					
gross forms	Seguin Form Discrim.	5-7½					
form details: in designs	P.I.T. Form Discrim.	3-8					
in pictures	N. Picture Identification	3-8					
spatial directions: designs,etc	F. Position in Space	3-8					
letters,words	WRAT - reading	all					
reversals	Bender, etc.	all					
Integration & organization of:							
geometric forms	Casuist Form Board	5-9					
picture puzzles	W. Object Assembly	5-16					
	D. Disarranged Pictures	6-15					
patterns and materials	W. Block Design	5-16					
	Alexander Passalong	8-16					
	Raven	$6-11^6$					
Differentiation-figure from ground:							
in following interwoven lines	I. Visual Closure	$6-11^6$					
	S.C. Figure Ground	4-11					
in depth visualization of diagrams	N. Block Patterns	3-11					
Verbal conepts about:							
spatial directions	H. Directionality test IV	5-13					
time	H. Time test VII	5-13					
spatial prepositions	A. Centre prepositions #2	all					
Other Tests:							

Description of Test	Name of Test	Age Range of Test	Child's C.A. ....yrs Aver. Range ± 15% C.A.		- 15% ... yrs Av		+ 15% M.. yrs +Av
			To Do	M.A. or Score			
VISUAL-MOTOR CO-ORDINATION							
Form production accuracy:							
in drawings	D.A.P.-Goodenough score	all					
in design copying.....	F. Spatial Relations	2-8					
	Beery	3-14					
	Rutgers Drawings - Form A	4-8					
	- Form B	8-11					
	Bender - Koppitz score	5-10					
	WPPSI - Geometric Design	4-6½					
in cut-outs	Five Task Test	9-13					
in paper-folding	N. Paper Folding	3-9					
Speed of:							
learning visual-motor assoc...	W. Coding	5-16					
	WPPSI - Animal House	4-6½					

Qualitative analysis: (porportion, spatial orientation, integration) ..... Comment if applicable

Other Tests:

Description of Test	Name of Test	Age Range of Test	Child's C.A. .....yrs Aver.Range ± 15% C.A. To Do	M.A.or Score	− 15% ... -Av	yrs. Av	+ 15% ... +Av
AUDITORY FUNCTIONING							
Acuity of hearing	Audiometric testing	all					
Discrimination of sounds:							
familiar sounds	A.Centre Audit.Test #3	4-6					
speech sounds	Wepman Audit. Discrim.	all					
	G-F-W-Aud.Dis.-Quiet	all					
	-Noise	all					
Following verbal instructions:							
generally	Need to repeat task/test instruct's	all					
for seatwork.....	D. Oral Directions	6-16					
for actions	D. Oral Commissions	3-8					
Receptive vocabulary:	Peabody Picture Vocab.	$6-11^6$					
	I. Auditory Reception	2-10					
VERBAL FUNCTIONING							
Speech:							
articulation of letter sounds	Templin-Darley Articul.	all					
repeating multisyllabic words	Slingerland Echolalia	5-9					
part-whole relationships in words..	I. Sound Blending	$6-11^6$					
fluidity (no stammering, stuttering) -	Observable speech	all					
Language:							
expressive vocabulary	W. Vocabulary	5-16					
grammar usage	I. Grammatic Closure	2-10					
speed of verbal associations	D. Free Association	$6-11^6$					
Other Tests:							

Description of Test	Name of Test	Age Range of Test	Child's C.A. .....yrs. Aver. Range ± 15% C.A. To Do	M.A. or Score	- 15% ... -Av	yrs Av	+ + 15% .... +Av
MEMORY - ATTENTION SPAN							
Visual:							
Designs	I. Visual Memory	2-10					
	P.I.T. Immediate Recall	3-8					
Colors	N. Memory for Color	3-8					
Auditory:							
Digits.....	W. Digit Span	5-16					
	I. Auditory Memory	2-10					
Sentences	Spreen-Benton Sentence Rept.	6-13					
	WPPSI - Sentences	4-6½					
	Detroit - Related Syllables	all					
Visual-Motor:							
Movements	R. Target Test	6-11[6]					
	Knox - Dube Test	5-12					
ACADEMIC FUNCTIONING							
Grade levels: (Test date(s) _____)							
Word Recognition	WRAT Reading	all	Gr:		S.S.		
Spelling	WRAT Spelling	all	Gr:		S.S.		
Arithmetic	WRAT Arithmetic	all	Gr:		S.S.		
Other Tests:							

APPENDIX D

SPECIFIC LEARNING DISABILITIES
Profile of Strengths and Weaknesses

NAME _____ D.O.B. _____ AGE _____

SCHOOL _____

FUNCTIONS — NO. OF TESTS AT EACH LEVEL OF PERFORMANCE

	Below Average	AVERAGE			Above Average	Total Checks
		Low	Medium	High		
INTELLECTUAL FUNCTIONING						
GROSS-MOTOR CONTROL						
FINE-MOTOR CONTROL						
VISUAL PERCEPTION						
VISUAL-MOTOR CO-ORDINATION						
AUDITORY FUNCTIONING						
VERBAL FUNCTIONING						
ATTENTION SPAN						

ACADEMIC LEVELS:

Date_____19___ Word Recog. Gr._____ Spelling.Gr._____Arith. Gr._____

SUMMARY OF PROFILE CATEGORIES:

APPENDIX E

Differences Between High and Middle Socioeconomic Groups

Test	$\bar{X}$ High	$\bar{X}$ Low	t
I.T.P.A. Sound Blending	22.14	20.24	2.90*
I.T.P.A. Auditory Closure	20.91	20.08	2.25*
Wepman Auditory Discrimination	2.61	2.34	1.21
Detroit Verbal Absurdities	23.49	22.38	0.95
Detroit Oral Directions	7.15	6.62	1.01
Detroit Free Association	60.25	59.47	0.29
Detroit Memory for Related Syllables	55.76	54.34	0.87
Slingerland Echolalia	21.09	20.70	1.04
I.T.P.A. Visual Association	26.34	25.60	1.25
I.T.P.A. Visual Closure	28.24	28.44	-0.26
Benton Visual Retention	5.35	4.87	1.86
Detroit Pictorial Opposites	13.14	13.04	0.51
Reitan Target Test	14.64	14.34	0.67
S. C. Figure Ground	18.22	17.97	0.55

Note. - Means collapsed across age groups and sex.

d.f.= 28

*$p < .05$ (two-tailed test)

APPENDIX F

Differences Between Middle and Low Socioeconomic Groups

Test	$\bar{X}$ High	$\bar{X}$ Low	t
I.T.P.A. Sound Blending	20.24	18.61	2.25*
I.T.P.A. Auditory Closure	20.08	19.65	1.02
Wepman Auditory Discrimination	2.34	2.58	-0.96
Detroit Verbal Absurdities	22.38	19.79	2.24*
Detroit Oral Directions	6.62	5.24	2.75*
Detroit Free Association	59.47	61.65	-0.74
Detroit Memory for Related Syllables	54.34	51.99	1.54
Slingerland Echolalia	20.70	20.17	1.57
I.T.P.A. Visual Association	25.60	25.74	-0.25
I.T.P.A. Visual Closure	28.44	28.46	-0.02
Benton Visual Retention	4.87	4.88	-0.08
Detroit Pictorial Opposites	13.04	12.78	1.33
Reitan Target Test	14.34	14.76	-0.98
S. C. Figure Ground	17.97	18.19	-0.48

Note: - Means collapsed across age groups and sex.

d.f. = 28

*$p < .05$ (two-tailed test)

APPENDIX G

DESCRIPTION OF THE TESTS

1. Illinois Test of Psycholinguistic Abilities (Kirk, S.A., McCarthy, J.J., and Kirk, W.) (Rev. ed.) Urbana: University of Illinois Press, 1968.

   (a) Visual-Motor Association purports to assess the ability to relate concepts which are presented visually. The subject is presented with a single stimulus picture surrounded by four optional pictures, one of which is associated with the stimulus picture.

   (b) Visual Closure assesses the ability to identify a common object from an incomplete visual presentation. Four scenes are presented separately. The subject is asked to see how quickly he can point to all examples of a particular object within the time limit of 30 seconds for each scene.

   (c) Auditory Closure is a test of the ability to fill in missing parts of a word which were deleted in auditory presentation, to produce the complete word.

   (d) Sound Blending measures the ability to synthesize the separate parts of a word and produce an integrated whole. The sounds of a word are spoken

singly at half-second intervals, and the subject is asked to identify the word.

2. Detroit Test of Learning Aptitude. (Baker, Harry J. and Leland, Bernice) Indianapolis: Bobbs-Merrill, 1967.

(a) Pictorial Opposites subtest consists of a series of drawings, and the subject is asked to find the drawing which presents an idea opposite to that of the sample picture. This is purported to assess visual attentive ability.

(b) Verbal Absurdities consists of a series of "absurd" statements that are read to the subject. The examiner asks for a description of what is "foolish" about the statement. Both verbal reasoning and comprehension are required.

(c) Oral Directions consists of a page of figures, letters, words and digits arranged in a series of seventeen sets. Subjects respond to a set of directions and carry out the task with a crayon or a pencil. The test purports to measure memory for following oral directions for a seat-work task.

(d) Free Association is simply a verbal test of free word association. Subjects are asked to say as

many words as possible within a specified time limit. The following time limits were used in obtaining the data for this study:

Age	Time Limit
6.0 to 6.11	1 minute
7.0 to 9.11	2 minutes
10.0 to 11.11	3 minutes

(e) Auditory Attention Span for Related Syllables is a test of auditory sequential memory. It consists of a series of 43 sentences, ranging from five words of six syllables to twenty-two words with twenty-seven syllables. Subjects are asked to repeat the sentences after the examiner.

3. Southern California Figure-Ground Visual Perception Test. (Ayers, A. Jean) Beverley Hills: Western Psychological Services, 1966.

This test is designed to assist in the determination of deficits in visual perception which require subjects to select a foreground from a rival background. The selections are made from a set of multiple choice plates which include three common objects that appear also in embedded pictures of the common objects superimposed.

4. Auditory Discrimination Test. (Wepman, J.M.), Chicago: Language Research Associates, 1958.

This test assesses the ability to recognize the fine differences that exist between the phonemes used in English speech. Subjects listen to pairs of words read by the examiner and indicate whether the words are the same (a single word repeated) or different (two different words). Only Form I was used in this standardization study.

5. The Visual Retention Test. (Benton, Arthur J.) New York: The Psychological Corporation, 1963.

This instrument was designed to assess visual perception, visual memory, and "visuoconstructive abilities". Each of ten designs is presented to the subject for 10 seconds, and the task is to reproduce them from memory. Form C of this test was used in the standardization.

6. Screening Tests for Identifying Children with Specific Language Disability. (Slingerland, Beth H.) Cambridge: Educators Publishing Service, 1962.

This test involves the oral repetition of 25 multi-syllabic words and phrases. It is designed for

children who have no hearing loss, yet who are suspected of having problems with auditory perception. For example, this includes the ability to integrate auditory memory with speech. In the present research the forms of this test were administered according to the following guidelines:

Form	Age
Pre-reading	5.6 to 6.5
Grades 1 & 2 (A)	6.6 to 7.5
Grades 2 & 3 (B)	7.6 to 8.5
Grades 3 & 4 (C)	8.6+

7. Target Test. (Reitan, Ralph). Neuropsychology Laboratory, Indiana University Medical Centre, Indianapolis, Indiana, 1968.

This is a test of visual memory. The examiner taps out a pattern on a sheet with black dots on it. The subject has before him a paper with 20 boxes drawn on it and each box is a reproduction of the sheet on the wall. Subjects are expected to join the dots in the same order as tapped by the examiner.

8. The Peabody Picture Vocabulary Test. (Dunn, Lloyd). Circle Pines, Minnesota, American Guidance Service Inc., 1965.

According to the authors of this test, it provides an estimate of a person's verbal intelligence. No oral response is required in this test, and the subjects are not required to read. The subject simply chooses the picture (out of a possible four) which is in some way associated with the stimulus word given by the examiner. The test thus provides a measure of the subject's receptive vocabulary, and is, therefore, particularly useful for use with subjects whose speech or expressive language skills are impaired.

9. Coloured Progressive Matrices. (Raven, J.C.), Los Angeles: Western Psychological Services, 1962.

This test provides an estimate of a person's non-verbal intelligence, and it also gives a measure of visual-perceptual organization. A number of visual-perceptual skills are necessary for successful performance on this test, e.g. perception of form details, perception of spatial directions, and part-whole integration. The more difficult items in this test require analogical reasoning ability. No verbal response is required

The subject simply points to the design (out of a possible six) which is required to complete a given pattern or matrix.

10. The Motor Steadiness Battery. (Kløve, H.) Department of Neurology, University of Wisconsin School of Medicine, Madison, Wisconsin, 1966. Apparatus obtainable from Lafayette Company, Indiana.

(a) The Maze Test provides measures of both hand steadiness and speed of hand movement. The subject is required to move a stylus through a maze-board placed at a 70 degree angle. Two measures of hand steadiness are obtained: the number of times the stylus contacts the sides, and the length of time the stylus rests against the sides. Speed of hand movement is given by the time required to complete the task. The subject performs this task twice with his dominant hand.

(b) The Progressive Holes Test provides a measure of fine-motor steadiness in static position. The subject is required to fit a stylus into a series of progressively smaller holes. Two measures of

steadiness are given: the number of times the stylus touches the side of a hole, and the length of time the stylus rests against the side. Subjects up to age 8 are required to complete the first four holes, and subjects age 9 and older complete all nine holes. One trial with the dominant hand is required.

(c) The Grooved Pegboard Test provides a measure of speed of hand movement. The subject is required to fit grooved metal pegs into grooved holes. Subjects up to age 8 complete two rows of holes (total of 10 pegs) and subjects age 9 and older complete all five rows (total of 25 pegs). One trial with the dominant hand is required.

11. Gross-Motor Control Battery.

Test items used in this battery were selected from two sources: the Lincoln-Oseretsky Motor Development Scale (1955) and the Purdue Perceptual-Motor Survey (1966). The items were divided into the two main areas of gross-motor co-ordination and balance, and then arranged in a developmental sequence within these two categories. On the basis of previous experience with

these test items, some modifications in method of administration and scoring were made. All the items are scored either "pass" or "fail".

(1) Gross-Motor Co-ordination

(a) Hopping on one foot: at least three times. Two trials with each leg.

(b) Skipping: skip forward at least four steps. Two trials.

(c) Walking on tiptoe: at least three yards. Two trials.

(d) Walking backwards heel-to-toe: for at least two yards, with arms down and heel touching toe. Two trials.

(e) Touching nose with eyes closed: touch nose with index finger, arms extended to side, eyes closed. Three trials with each hand.

(f) Rhythmic movements: Subject is seated and taps the floor rhythmically with soles of feet, alternately with each foot and at a constant speed. At the same time, corresponding index finger taps on table-top. The finger and foot tapping should be synchronized

and should be maintained for at least 20 seconds.

(g) Jumping over 16" barrier: Jump from a stationary position over a rope 16" high, with arms free and feet together. Two trials.

(h) Catch ball with one hand: Catching a ball thrown by the examiner with an under-hand motion, over a distance of 10 feet. Subject should catch with one hard four out of five times. A tennis ball is used.

(i) Jump and turn 180°: Jump, turn 180° and land on tiptoes and remain on tiptoes for at least three seconds without any moving or shifting.

(j) Target throw: Subject throws tennis ball at a 10" square target which is placed at the height of subject's chest, eight feet from the subject. Ball is thrown from the shoulder in a straight line without raising the arm. It should not be thrown either under-hand or over-hand. Subject should hit the target four out of five tries.

(k) Angels-in-the-Snow: Subject lies on his back,

with feet together and arms at his sides, and moves his arms and legs along the floor according to instructions. There are four tasks in this test: move left arm and leg simultaneously, move right arm and leg simultaneously, move left arm and right leg simultaneously, move right arm and left leg simultaneously. Head should touch floor, and there should be no overflow of movement. Two trials.

(2) Balancing

(a) Balancing in semi-crouch - eyes closed: Crouching with knees flexed at approximately 45 degrees. Feet are parallel, one foot apart, and arms are extended horizontally. Eyes should be closed. The crouching position must be maintained for at least 10 seconds without any movement or shifting of feet.

(b) Balance with foot against knee - eyes open: Standing on one foot with sole of foot against knee of supporting leg. Arms are down and eyes are open. Position must be

maintained for at least 10 seconds without any movement or shifting of feet. One trial with each foot.

(c) Balance on one foot - eyes closed: Standing on one foot with eyes closed. Arms are down and one foot is off the floor. Position must be maintained for at least three seconds without any movement or shifting of supporting foot. One trial with each foot.

(d) Balance heel-to-toe - eyes closed: Subject stands with right foot placed directly in front of left. Feet should be in a straight line and right heel should touch toe of left foot. Arms are down beside hips. Position must be maintained for at least 15 seconds without any movement of feet or any gross bodily movement.

(e) Balance on tiptoe - eyes closed: Subject stands on tiptoe with feet about one foot apart, and arms down. Position must be maintained for at least 15 seconds without any movement or shifting of feet.

APPENDIX H

GROSS-MOTOR SCORING FORM

B A L A N C E

NAME_____ C.A._____ DATE_____

AGE RANGE	ACTIVITY	CHECK IF PASSED	COMMENTS
MF < 6-0	Semi Crouch		
F 8-6 to 8-11	Stand on one leg		
F 9-6 to 9-11	Foot against knee		
M 10-6 to 10-11	Stand on one leg		
M 10-6 to 10-11	Foot against knee		
MF > 12-0	Heel-to-toe		
MF > 12-0	Tip-Toe		

GROSS-MOTOR SCORING FORM

CO-ORDINATION

NAME_____ C.A._____ DATE_____

AGE RANGE*	ACTIVITY	CHECK IF PASSED	COMMENTS
MF < 6-0	Hop on one foot		
MF < 6-0	Walk tip-toe		
MF < 6-0	Touch Nose		
MF < 6-0	AIS L.arm L.leg		
MF < 6-0	AIS R.arm R.leg		
F < 6-0	Skipping		
M 6-0 to 6-5	Skipping**		
MF 6-6 to 6-11	Backwards Heel-to-toe		
MF 6-6 to 6-11	Jump 16"		
MF 7-6 to 7-11	AIS L.arm R.leg		
MF 7-6 to 7-11	AIS R.arm L.leg		
F 7-6 to 7-11	Rhytmic Tapping		
M 8-0 to 8-5	Rhytmic Tapping		
MF 9-0 to 9-5	Catch Ball		
F 9-0 to 9-5	Jump and Turn 180°		
M 10-0 to 10-5	Jump and Turn 180°		
M 10-0 to 10-5	Target Throw		
F 10-6 to 10-11	Target Throw		

* The age range indicates the age at which at least 80% of normal children performed the given activity successfully.

** Please note that although 80% of boys were able to skip at age 6-0, there was a consistent failure rate of 20% up to age 10-0, i.e. a substantial number of boys did not know how to skip.

APPENDIX I

MOTOR STEADINESS BATTERY
(AGES 5-15 YEARS)
Scoring Form

NAME _____ SCHOOL _____

CHRON.AGE _____ DATE _____ DOMINANT HAND _____

In all motor steadiness tests the examiner must be certain the student's arm is not braced against his side or the table, or steadied with the other hand.

A. MAZE

	Dominant Hand			Non-Dominant Hand		
	Timer (T)	Counter (C)	Speed(S)	Timer (T)	Counter (C)	Speed(S)
Trial 1						
Trail 2						
Total						
M.A.						

T = Length of time stylus contacts sides (see apparatus T)
C = Number of contacts between stylus and side (apparatus C)
S = Time taken from start to finish (stopwatch).

B. PROGRESSIVE HOLES

	Dominant Hand				Non-Dominant Hand			
	Timer (T)		Counter (C)		Timer (T)		Counter (C)	
Hole (10 sec. per hole)	Cumul-* ative	Per** Hole	Cumul- ative	Per Hole	Cumul- ative	Per Hole	Cumul- ative	Per Hole
1								
2								
3								
4								
Total								
	(Balance only if child 9.0 yrs. or more)							
5								
6								
7								
8								
9								
Total								
M.A.								

* Make note of Timer and Counter numbers after each hole but have both run cumulatively until the end of the test.

** At the end of the test calculate the differences between successive holes to find scores per hole.

Cont'd Page 2

C. GROOVED PEGBOARD

	Row	Dominant Hand		Non-Dominant Hand	
		Time	Error *	Time	Error
Balance only if child 9.0 yrs. or more	1				
	2				
	Total				
	3				
	4				
	5				
	Total				
	M.A.				

* Errors in number of times pegs dropped.

MOTOR SPEED

Tapping test for hands and feet (5 to 15 years)

	Hands		Feet	
	Dominant Counter (C)	Non-Domin. Counter (C)	Dominant Counter (C)	Non-Domin. Counter (C)
Trial 1 *				
Trial 2				
Trial 3				
Trial 4				
Total best 3 trials				
Mean best 3 trials				
M.A.				

* Each trial 10 second time period.

APPENDIX J

TABLES OF NORMS

Benton Visual Retention	i
Detroit Auditory Attention	ii
Detroit Free Association	iii
Detroit Oral Directions	iv
Detroit Pictorial Opposites	v
Detroit Verbal Absurdities	vi
I.T.P.A. Auditory Closure	vii
I.T.P.A. Visual Association	viii
I.T.P.A. Visual Closure	ix
I.T.P.A. Sound Blending	x
Slingerland Echolalia	xi
Southern California Figure Ground	xii
Reitan Target Test	xiii
Wepman X	xiv
Wepman Y	xv
Peabody I.Q.	xvi
Peabody Raw Score	xvii
Raven Raw Score	xviii
Maze Counter	xix
Maze Speed	xx

Maze Timer		xxi
Holes Counter	(1-4)	xxii
Holes Counter	(Total)	xxiii
Holes Timer	(1-4)	xxiv
Holes Timer	(Total)	xxv
Pegboard Speed	(Rows 1-2)	xxvi
Pegboard Speed	(All Rows)	xxvii
Percentile Ranks for the North York Gross-Motor Tasks		xxviii

INSERT

RE: INTERPRETATION OF TABLES OF NORMS

Please note that:

1. The numbers 1, 2 and 3 across from SES refer to socio-economic groups 1, 2 and 3 respectively. Numbers 1+2+3 refer to SES groups combined.

2. The numbers across from the age level refer to the N in each "cell", e.g. 10 males at each age group and each socio-economic group.

3. In each age group for a given socio-economic group, the Mean is given first, followed by the Variance and the Standard Deviation.

4. The final column contains Means, Variances, and Standard Deviations respectively when all socio-economic groups and all males and females are combined, e.g. 45 males and females for each group, combining socio-economic groups 1, 2 and 3.

ASSESSMENT CENTRE PROJECT DATA — TEST : BENTON VISUAL RETENTION — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.00	2.40	2.70	3.70	3.00	3.60	2.80	3.13	5.00	2.80	2.73	3.51
	1.00	1.24	3.61	31.48	-0.0	1.04	3.36	1.58	56.40	1.49	3.53	21.58
	0.033	1.114	1.900	5.610	0.0	1.020	1.833	1.258	7.510	1.222	1.879	4.646
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	3.10	2.80	3.20	2.97	2.40	3.80	2.20	2.80	2.87	3.00	2.87	2.91
	2.09	1.64	2.96	2.63	0.24	2.16	2.16	2.03	2.25	2.13	2.92	2.44
	1.759	1.281	1.720	1.622	0.490	1.470	1.470	1.424	1.500	1.461	1.708	1.561
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.70	3.10	3.40	3.07	4.20	3.00	4.20	3.80	3.20	3.07	3.67	3.31
	2.21	2.29	2.04	2.60	2.96	1.60	1.36	2.29	3.63	2.06	1.96	2.61
	1.792	1.513	1.428	1.611	1.720	1.265	1.166	1.514	1.904	1.436	1.398	1.617
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	4.20	4.40	3.00	4.17	4.20	2.60	5.00	3.93	4.20	3.80	4.27	4.09
	0.76	3.04	1.20	1.74	0.56	0.64	0.40	1.53	0.69	2.96	1.26	1.68
	0.872	1.744	1.136	1.319	0.748	0.800	0.632	1.236	0.833	1.720	1.123	1.297
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	5.50	4.40	5.60	5.17	4.00	5.00	4.60	4.53	5.00	4.60	5.27	4.96
	1.45	1.34	4.94	3.14	2.80	1.20	1.04	1.85	2.67	1.71	3.80	2.80
	1.360	1.356	2.200	1.772	1.673	1.095	1.020	1.360	1.633	1.306	1.948	1.673
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.00	5.40	4.60	5.33	4.80	3.80	5.60	4.73	5.60	4.87	4.93	5.13
	2.00	1.04	2.04	2.02	1.76	1.36	5.84	3.53	2.24	1.72	3.53	2.60
	1.414	1.020	1.428	1.422	1.327	1.166	2.417	1.879	1.497	1.310	1.879	1.614
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	5.10	6.10	5.00	5.40	5.40	4.80	6.20	5.47	5.20	5.67	5.40	5.42
	1.09	1.89	1.20	1.64	1.44	2.16	2.16	2.25	1.23	2.36	1.84	1.84
	1.044	1.375	1.095	1.281	1.200	1.470	1.470	1.500	1.108	1.535	1.356	1.358
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.10	6.20	5.30	5.87	5.00	6.80	6.00	5.93	5.73	6.40	5.53	5.89
	1.09	1.76	1.61	1.65	2.00	0.56	0.80	1.66	1.66	1.44	1.45	1.65
	1.044	1.327	1.269	1.284	1.414	0.748	0.894	1.289	1.289	1.200	1.204	1.296
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.50	5.50	5.10	5.70	6.60	4.80	6.20	5.87	6.53	5.27	5.47	5.76
	1.25	2.05	2.39	2.41	1.04	0.16	1.76	1.58	1.18	1.53	2.78	2.14
	1.118	1.432	1.700	1.552	1.020	0.400	1.327	1.258	1.087	1.236	1.668	1.463
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	7.10	6.40	5.80	6.43	6.20	7.40	5.60	6.40	6.80	6.73	5.73	6.42
	2.29	1.04	2.56	2.25	2.16	1.04	3.44	2.77	2.43	1.26	2.86	2.42
	1.513	1.020	1.600	1.499	1.470	1.020	1.855	1.665	1.558	1.123	1.692	1.556
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	7.10	5.60	6.20	6.30	7.40	7.20	7.20	7.27	7.20	6.13	6.53	6.62
	1.89	1.04	2.76	2.28	1.04	2.56	4.96	2.86	1.63	2.12	3.72	2.68
	1.375	1.020	1.661	1.509	1.020	1.600	2.227	1.692	1.275	1.454	1.928	1.637
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.60	5.90	6.00	6.13	7.40	6.60	6.60	6.87	6.87	6.07	6.20	6.38
	1.24	3.36	2.20	2.38	0.64	1.44	1.84	1.45	1.18	2.86	2.16	2.19
	1.114	1.833	1.483	1.543	0.800	1.200	1.356	1.204	1.087	1.692	1.470	1.480
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	5.50	4.82	4.73	5.02	5.05	4.95	5.18	5.06	5.35	4.87	4.88	5.03
	10.42	3.73	3.76	6.09	3.78	3.91	4.52	4.08	8.25	3.79	4.06	5.42
	3.227	1.931	1.940	2.467	1.944	1.978	2.125	2.020	2.872	1.948	2.015	2.328

ASSESSMENT CENTRE PROJECT DATA — TEST : DETROIT AUDITORY ATTENTION — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	40.50	41.40	34.20	38.70	35.80	40.40	31.00	35.73	38.93	41.07	33.53	37.84
	160.45	288.24	28.16	167.56	41.76	171.04	93.20	100.06	125.93	232.73	53.05	147.29
	12.675	16.978	5.307	12.944	6.462	11.002	9.654	10.003	11.222	15.255	7.283	12.136
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	42.80	44.50	37.10	41.50	33.20	40.40	42.00	38.53	39.67	43.13	39.73	40.51
	172.40	121.25	64.29	120.45	80.56	207.04	114.80	148.78	162.76	153.58	86.46	137.85
	13.134	11.011	8.019	11.378	8.976	14.389	10.714	12.198	12.758	12.393	9.299	11.741
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	41.10	42.40	37.80	40.47	45.20	49.20	42.80	45.73	42.47	44.67	39.53	42.22
	121.00	127.04	53.89	104.25	132.96	20.16	146.56	106.86	128.78	101.69	90.12	111.28
	11.004	11.271	7.341	10.210	11.531	4.490	12.106	10.337	11.348	10.084	9.493	10.549
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	52.00	57.20	49.10	52.77	44.80	48.80	54.80	49.47	49.60	54.40	51.00	51.67
	164.22	199.56	65.29	151.11	152.96	86.96	219.36	169.98	171.97	171.04	124.27	159.82
	12.814	13.768	8.117	12.293	12.368	9.325	14.811	13.038	13.114	13.078	11.147	12.642
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	51.40	53.40	52.30	52.37	49.00	51.60	49.00	49.87	50.60	52.80	51.20	51.53
	90.44	99.04	146.81	109.77	60.80	122.24	66.80	84.78	81.84	101.49	122.56	102.83
	9.510	9.489	12.117	10.477	7.797	11.056	8.173	9.208	9.047	10.074	11.071	10.140
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	53.30	54.10	50.30	52.57	61.60	52.80	57.80	57.40	56.07	53.67	52.80	54.18
	162.31	39.29	116.41	108.95	160.24	45.76	249.96	164.64	177.26	41.82	173.09	132.64
	12.740	6.268	10.789	10.433	12.659	6.765	15.779	12.831	13.314	6.467	13.157	11.517
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	45.90	56.00	55.20	52.67	62.60	48.00	57.40	56.00	51.40	53.33	56.60	53.78
	125.74	55.60	197.56	149.89	87.44	15.60	58.64	90.40	175.71	56.49	151.57	132.53
	11.214	7.457	14.056	12.243	9.351	3.950	7.658	9.508	13.255	7.516	12.312	11.512
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	73.00	60.40	54.10	61.50	58.60	55.00	59.60	57.73	66.20	58.60	55.93	60.24
	269.20	306.44	122.89	274.25	181.04	48.80	99.44	113.66	266.03	227.04	121.80	223.88
	16.406	17.505	11.086	16.560	13.455	6.986	9.972	10.661	16.310	15.068	11.036	14.962
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	64.00	61.30	47.60	57.63	79.80	59.40	58.60	65.93	69.27	60.67	51.27	60.40
	93.60	73.21	58.04	126.50	214.96	121.04	143.44	256.07	189.53	89.96	113.40	185.00
	9.675	8.556	7.618	11.247	14.662	11.002	11.977	16.002	13.767	9.485	10.649	13.601
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	65.50	65.70	62.70	64.63	72.60	61.20	56.20	63.33	67.87	64.20	60.53	64.20
	106.45	151.21	119.61	127.63	107.44	139.76	152.56	180.35	117.98	151.89	139.98	145.58
	10.317	12.297	10.937	11.297	10.365	11.822	12.352	13.430	10.862	12.325	11.831	12.066
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	71.50	61.00	61.90	64.80	70.00	75.00	72.80	72.60	71.00	65.67	65.53	67.40
	97.65	113.60	195.69	158.23	226.00	41.20	136.16	136.64	140.93	133.02	200.25	164.55
	9.882	10.658	13.989	12.579	15.033	6.419	11.409	11.689	11.871	11.534	14.151	12.828
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	65.50	58.20	69.60	64.43	67.20	63.20	62.60	64.33	66.07	59.87	67.27	64.40
	150.45	111.36	116.84	151.45	297.76	58.16	55.44	141.29	206.20	99.18	107.27	148.07
	12.427	10.553	10.809	12.306	17.256	7.626	7.446	11.887	14.360	9.959	10.357	12.168
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	55.29	54.63	51.13	53.69	56.70	53.75	53.72	54.72	55.76	54.34	51.99	54.03
	264.74	196.50	214.07	228.43	350.18	174.82	238.60	256.49	293.66	189.45	223.73	238.02
	16.271	14.018	14.631	15.114	18.713	13.222	15.447	16.015	17.137	13.764	14.958	15.428

THE BOARD OF EDUCATION FOR THE BOROUGH OF NORTH YORK

ASSESSMENT CENTRE PROJECT DATA — TEST : DETROIT FREE ASSOCIATION — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	34.50	27.60	25.[illegible]	29.27	26.20	32.60	21.00	26.60	31.73	29.27	24.13	28.38
	220.45	116.84	53.[illegible]	144.40	189.36	98.64	42.80	132.77	225.40	116.33	54.52	142.10
	14.848	10.809	7.281	12.016	13.761	9.932	6.542	11.523	15.013	10.786	7.383	11.921
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	33.30	31.20	33.30	32.60	36.40	33.00	34.80	34.73	34.33	31.80	33.80	33.31
	73.21	229.96	120.61	145.24	75.44	23.20	85.76	63.40	76.09	161.76	115.49	118.97
	8.556	15.164	11.385	12.052	8.686	4.817	9.261	7.962	8.723	12.719	10.747	10.907
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	35.00	42.10	35.20	37.43	37.00	34.00	38.60	36.53	35.67	39.40	36.33	37.13
	148.30	269.09	82.76	177.78	43.20	52.40	68.24	58.25	114.49	211.44	80.49	138.12
	12.198	16.404	9.097	13.333	6.573	7.239	8.261	7.632	10.700	14.541	8.972	11.752
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	44.40	41.50	37.00	40.97	37.40	36.40	47.60	40.47	42.07	39.80	40.53	40.80
	133.04	299.25	179.30	212.30	28.24	302.64	42.24	149.98	107.66	306.16	158.25	191.58
	11.447	17.299	13.392	14.571	5.314	17.397	6.499	12.247	10.376	17.497	12.580	13.841
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	59.80	65.00	63.20	62.67	64.80	51.60	65.40	60.60	61.47	60.53	63.93	61.98
	298.96	334.69	464.76	364.75	46.16	287.44	421.84	292.37	208.25	358.78	451.53	341.58
	16.762	18.292	21.558	19.009	6.794	16.954	20.539	17.099	14.431	18.942	21.249	18.482
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	71.00	62.30	55.10	63.07	68.80	51.60	67.00	62.47	70.80	58.73	59.07	62.87
	280.77	438.61	126.29	331.33	386.16	353.84	468.80	462.51	323.23	435.80	271.93	375.14
	16.903	20.943	11.238	18.202	19.651	18.811	21.652	21.506	17.979	20.876	16.490	19.369
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	67.70	55.90	54.70	59.43	61.80	71.40	60.60	64.60	65.73	61.07	56.67	61.16
	165.21	263.29	208.21	247.05	366.96	532.64	5.04	324.91	240.60	406.46	148.62	278.93
	12.877	16.226	14.450	15.718	19.156	23.079	2.245	18.025	15.511	20.161	12.191	16.701
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	73.30	66.10	84.00	74.47	76.00	75.40	83.20	79.87	74.20	69.20	85.40	76.27
	327.21	185.69	231.40	302.18	347.60	143.44	62.56	219.32	335.63	190.83	179.04	281.04
	18.089	13.627	15.212	17.383	18.644	11.977	7.909	14.809	18.320	13.814	13.381	16.764
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	69.70	78.00	70.10	72.60	88.60	59.20	79.80	75.87	76.00	71.73	73.33	73.69
	82.41	454.80	469.29	350.11	187.04	511.76	194.96	449.72	196.66	552.33	398.76	385.69
	9.078	21.326	21.663	18.711	13.676	22.622	13.963	21.207	14.024	23.502	19.969	19.639
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	74.30	73.40	69.40	72.37	77.80	63.40	77.20	72.80	75.47	70.07	72.00	72.51
	180.41	467.44	144.44	271.64	563.76	307.84	201.36	401.89	316.92	436.46	176.93	315.09
	13.763	21.620	12.018	16.481	23.744	17.545	14.190	20.047	17.802	20.892	13.301	17.751
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	80.30	83.60	92.00	85.30	87.00	104.00	111.80	100.93	82.53	99.40	98.60	90.51
	260.21	567.04	204.90	368.28	416.40	222.80	894.56	618.47	322.25	544.77	521.84	505.98
	16.131	23.813	14.311	19.191	20.406	14.926	29.909	24.869	17.951	23.340	22.844	22.494
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	75.90	91.80	100.50	89.40	67.20	91.40	87.00	81.87	73.00	91.67	96.00	86.89
	197.69	471.16	556.45	508.84	316.16	819.84	216.00	561.45	247.33	587.43	483.46	538.99
	13.700	21.706	23.599	22.558	17.781	28.633	14.697	23.695	15.727	24.237	21.988	23.216
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	60.00	59.88	60.02	59.96	60.75	58.67	64.92	61.44	60.25	59.47	61.65	60.46
	493.87	732.96	781.40	669.41	664.52	815.86	846.31	782.31	550.88	760.92	808.37	707.53
	22.223	27.073	27.954	25.873	25.778	28.563	29.091	27.970	23.471	27.585	28.432	26.599

iii

ASSESSMENT CENTRE PROJECT DATA — TEST : DETROIT ORAL DIRECTIONS — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.80	1.60	1.30	2.07	0.80	2.20	0.60	1.20	2.13	1.80	1.40	1.78
	3.76	2.44	2.36	3.13	0.96	4.56	0.64	2.56	3.72	3.23	2.11	3.11
	1.939	1.562	1.536	1.769	0.980	2.135	0.800	1.600	1.928	1.796	1.451	1.762
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.70	1.40	1.40	2.43	2.80	0.80	1.40	1.67	3.40	1.47	1.67	2.18
	3.41	3.76	4.26	4.85	4.96	0.56	2.24	3.29	4.11	2.92	4.09	4.46
	1.947	1.939	2.227	2.201	2.227	0.748	1.497	1.814	2.026	1.707	2.022	2.111
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	4.30	4.00	3.30	3.87	4.60	2.20	2.40	3.07	4.40	3.40	3.00	3.60
	7.21	5.20	4.01	5.08	17.84	2.96	3.44	9.26	10.77	5.84	4.00	7.22
	2.685	2.490	2.002	2.446	4.224	1.720	1.855	3.043	3.282	2.417	2.000	2.687
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	4.50	5.20	3.70	4.47	4.60	4.00	6.80	5.13	4.53	4.80	4.73	4.69
	9.65	12.36	5.21	9.12	6.64	5.20	16.96	11.05	7.98	10.29	11.26	9.36
	3.141	3.516	2.283	3.019	2.577	2.280	4.118	3.324	2.825	3.208	3.356	3.140
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	5.10	7.50	4.50	5.70	4.20	6.60	2.80	4.53	4.80	7.20	3.93	5.31
	12.09	11.85	24.85	17.94	10.96	4.24	13.76	12.12	11.89	9.49	21.80	16.30
	3.477	3.442	4.985	4.236	3.311	2.059	3.709	3.481	3.449	3.081	4.669	4.038
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.10	6.50	5.30	5.97	4.40	5.00	6.20	5.20	5.53	6.00	5.60	5.71
	16.69	12.25	13.21	14.30	6.64	12.00	5.36	8.56	13.98	12.67	10.77	12.52
	4.086	3.500	3.635	3.781	2.577	3.464	2.315	2.926	3.739	3.559	3.282	3.538
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.60	5.70	7.50	6.60	9.20	5.80	3.20	6.07	7.47	5.73	6.07	6.42
	13.64	12.21	12.25	13.24	8.16	5.36	9.76	13.80	13.22	9.93	15.53	13.49
	3.693	3.494	3.500	3.639	2.857	2.315	3.124	3.714	3.649	3.151	3.941	3.673
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	12.70	9.40	4.40	8.83	8.20	9.40	8.00	8.53	11.20	9.40	5.60	8.73
	14.41	31.04	14.24	31.54	10.96	3.44	11.60	9.05	17.76	21.84	15.24	24.06
	3.796	5.571	3.774	5.616	3.311	1.855	3.406	3.008	4.214	4.673	4.030	4.905
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	10.30	5.50	3.00	6.27	11.40	8.80	8.00	9.40	10.67	6.60	4.67	7.31
	15.21	15.25	10.40	22.80	16.64	27.76	20.80	23.84	15.96	21.84	19.42	25.33
	3.900	3.905	3.225	4.774	4.079	5.269	4.561	4.883	3.994	4.673	4.407	5.032
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	10.90	12.40	9.10	10.80	11.80	9.00	6.40	9.07	11.20	11.27	8.20	10.22
	10.69	24.64	20.89	20.56	8.96	24.80	10.24	19.53	10.29	27.26	18.96	20.88
	3.270	4.964	4.571	4.534	2.993	4.980	3.200	4.419	3.208	5.221	4.354	4.570
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	11.10	10.50	10.20	10.60	11.40	13.00	11.00	11.80	11.20	11.33	10.47	11.00
	29.09	23.05	18.56	23.71	11.04	1.20	26.40	13.63	23.09	17.16	21.32	20.67
	5.394	4.801	4.308	4.869	3.323	1.095	5.138	3.691	4.806	4.142	4.617	4.546
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	9.80	9.90	8.20	9.30	8.20	11.60	6.40	8.73	9.27	10.47	7.60	9.11
	26.16	32.49	30.56	30.34	32.56	2.64	1.04	16.73	28.86	23.18	21.44	25.88
	5.115	5.700	5.528	5.508	5.706	1.625	1.020	4.090	5.372	4.815	4.630	5.087
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	7.32	6.67	5.23	6.41	6.80	6.53	5.27	6.20	7.15	6.62	5.24	6.34
	24.14	26.22	20.91	24.52	23.06	21.78	19.26	22.12	24.14	24.75	20.36	23.73
	4.913	5.121	4.573	4.952	4.895	4.667	4.389	4.703	4.913	4.975	4.512	4.871

ASSESSMENT CENTRE PROJECT DATA — TEST : DETROIT PICTORIAL OPPOSITES — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	11.60	11.10	10.70	11.13	11.40	11.40	9.00	10.60	11.53	11.20	10.13	10.96
	1.24	3.20	1.81	2.25	0.24	1.84	4.80	3.57	0.92	2.83	3.45	2.75
	1.114	1.914	1.345	1.500	0.490	1.356	2.191	1.890	0.957	1.681	1.857	1.659
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	12.60	11.90	10.50	11.00	10.20	10.60	11.80	10.87	10.47	11.47	10.93	10.70
	4.24	3.20	4.45	4.40	1.36	1.04	3.76	2.52	3.32	2.92	4.60	3.78
	2.060	1.814	2.110	2.098	1.166	1.020	1.939	1.586	1.821	1.708	2.144	1.943
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	11.00	11.90	11.90	11.57	11.60	11.20	12.20	11.67	11.20	11.60	12.00	11.60
	2.00	4.16	0.88	2.51	2.24	2.96	1.36	2.36	2.16	3.84	1.07	2.46
	1.414	2.040	0.943	1.595	1.497	1.720	1.166	1.535	1.470	1.960	1.033	1.569
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	12.60	13.40	12.80	12.67	11.00	12.60	13.80	12.47	12.07	13.13	12.60	12.60
	2.04	1.04	1.00	1.69	4.00	1.04	1.36	3.45	3.26	1.18	1.84	2.28
	1.428	1.020	1.000	1.300	2.000	1.020	1.166	1.857	1.806	1.087	1.356	1.511
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.50	13.30	13.60	13.47	13.20	14.00	12.80	13.33	13.40	13.53	13.33	13.42
	1.65	1.81	3.04	2.10	4.14	4.40	2.56	4.09	2.51	2.92	3.02	2.82
	1.285	1.345	1.744	1.477	2.040	2.191	1.600	2.022	1.583	1.708	1.738	1.680
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.40	13.50	13.20	13.70	14.00	13.00	13.20	13.40	13.60	13.00	13.20	13.27
	4.44	3.40	2.56	3.49	1.20	2.80	1.76	2.11	3.44	3.20	2.29	3.04
	2.107	1.844	1.600	1.869	1.095	1.673	1.327	1.451	1.855	1.789	1.514	1.744
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.10	13.40	14.00	13.50	13.60	13.60	13.20	13.47	13.27	13.47	13.73	13.49
	2.29	1.04	1.00	1.92	3.04	1.84	2.96	2.65	3.26	1.32	1.80	2.16
	1.514	1.020	1.000	1.384	1.744	1.356	1.720	1.628	1.806	1.147	1.340	1.470
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.70	13.30	12.60	13.53	14.00	14.00	12.80	13.60	14.47	13.53	12.67	13.56
	1.41	1.81	2.44	2.65	1.20	2.00	1.76	1.97	1.45	1.98	2.22	2.42
	1.187	1.345	1.562	1.628	1.095	1.414	1.327	1.405	1.204	1.408	1.491	1.557
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.20	12.70	12.90	13.27	14.80	13.20	13.20	13.73	14.40	12.87	13.00	13.42
	1.56	4.01	1.29	2.73	1.36	1.36	2.15	2.20	1.57	3.18	1.60	2.60
	1.249	2.002	1.136	1.652	1.166	1.166	1.470	1.482	1.254	1.784	1.265	1.612
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.80	14.30	13.90	14.33	13.60	14.60	14.00	14.07	14.40	14.40	13.93	14.24
	1.36	2.21	1.69	1.89	3.44	0.24	1.60	1.93	2.37	1.57	1.66	1.92
	1.164	1.437	1.300	1.374	1.855	0.490	1.265	1.389	1.541	1.254	1.289	1.385
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.50	13.80	13.60	14.03	14.60	14.00	14.40	14.33	14.53	13.87	14.00	14.13
	1.05	1.36	1.36	1.37	1.84	0.40	1.84	1.42	1.32	1.05	1.60	1.40
	1.025	1.166	1.166	1.169	1.356	0.632	1.356	1.193	1.147	1.024	1.265	1.185
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.30	14.10	13.70	14.03	14.60	15.00	14.00	14.53	14.40	14.40	13.80	14.20
	1.01	1.89	1.01	1.37	1.04	0.40	1.60	1.18	1.04	1.57	1.23	1.36
	1.005	1.375	1.005	1.169	1.020	0.632	1.265	1.087	1.020	1.254	1.108	1.166
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	13.19	13.01	12.73	12.98	13.05	13.10	12.87	13.01	13.14	13.04	12.78	12.99
	4.05	3.31	3.25	3.57	4.38	3.52	4.18	4.04	4.17	3.38	3.56	3.73
	2.014	1.819	1.802	1.880	2.093	1.877	2.045	2.010	2.042	1.839	1.887	1.931

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	12.20	6.60	6.20	8.33	6.20	10.20	2.80	6.40	10.20	7.80	5.07	7.69
	75.96	46.94	16.36	52.56	38.96	54.16	7.56	42.64	68.96	52.16	15.93	50.08
	8.683	6.844	4.045	7.250	6.242	7.359	2.713	6.530	8.304	7.222	3.991	7.077
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.30	12.70	7.10	12.37	7.60	16.20	10.60	11.47	11.40	12.53	8.27	10.73
	67.01	40.41	43.09	55.10	37.04	26.96	51.44	51.18	60.91	42.92	48.60	54.06
	7.975	6.338	6.564	7.423	6.086	5.192	7.172	7.154	7.804	6.551	6.971	7.353
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	10.60	13.20	7.00	10.57	6.60	5.60	13.60	8.60	9.27	10.67	9.80	9.91
	100.04	100.56	32.89	85.51	39.04	21.44	17.44	38.64	89.26	87.02	34.96	70.75
	10.442	10.028	5.735	9.247	6.248	4.630	4.176	6.216	9.448	9.329	5.913	8.411
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.70	19.50	12.10	16.77	13.60	16.20	23.20	17.67	17.00	18.40	15.80	17.07
	88.01	89.05	55.39	80.31	20.24	74.16	42.16	61.96	47.87	93.17	78.69	74.37
	9.281	9.952	7.476	9.962	4.499	8.612	6.493	7.871	6.919	9.653	8.871	8.624
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.30	23.70	21.00	21.67	21.40	27.20	17.60	22.07	20.67	24.87	19.87	21.80
	74.61	33.21	28.60	49.29	31.84	40.16	116.24	78.33	60.62	41.58	60.38	59.01
	8.439	6.181	5.348	7.021	5.643	6.337	10.781	8.850	7.786	6.448	7.771	7.681
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	25.00	24.60	14.30	21.30	19.20	21.20	23.40	21.27	23.07	23.47	17.33	21.29
	45.40	29.84	73.61	74.14	174.96	47.36	4.24	78.46	96.06	38.25	68.89	75.58
	6.733	5.463	8.580	8.611	13.227	6.882	2.059	8.858	9.801	6.185	8.300	8.694
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	25.70	23.70	22.10	23.83	29.00	21.20	16.00	22.07	26.80	22.87	20.07	23.24
	29.01	119.61	65.49	73.21	17.60	121.36	77.20	100.60	26.96	121.58	77.66	83.03
	5.292	10.937	8.093	8.556	4.195	11.016	8.786	10.030	5.192	11.026	8.813	9.112
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	32.10	25.20	25.40	27.57	26.40	28.40	28.20	27.67	30.20	26.27	25.33	27.60
	21.89	101.56	56.84	70.38	20.24	18.64	23.76	21.69	28.56	76.20	47.56	54.15
	4.679	10.079	7.539	8.389	4.499	4.317	4.874	4.657	5.344	8.729	6.896	7.359
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	32.10	27.30	24.60	28.00	32.80	28.80	24.00	28.53	32.33	27.80	24.40	28.18
	18.49	13.01	74.24	44.87	2.16	28.56	56.00	41.85	13.16	18.69	68.24	43.92
	4.300	3.607	8.616	6.698	1.470	5.344	7.483	6.469	3.627	4.324	8.261	6.628
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	32.20	32.40	27.80	30.17	32.40	29.60	30.00	30.67	32.33	30.13	28.93	30.33
	24.91	17.64	55.16	35.94	12.24	11.04	9.20	12.36	20.62	15.58	40.92	28.13
	4.991	4.200	7.427	5.995	3.499	3.323	3.033	3.515	4.541	3.947	6.397	5.304
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	34.30	32.80	23.10	31.73	33.40	32.00	34.20	33.20	34.00	32.53	30.13	32.22
	7.21	17.76	29.09	25.00	10.24	38.80	6.56	19.36	8.40	24.92	29.85	23.60
	2.685	4.214	5.394	5.000	3.200	6.229	2.561	4.400	2.898	4.992	5.463	4.858
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	35.20	29.50	32.60	32.43	33.60	34.60	30.40	32.97	34.67	31.20	31.87	32.58
	9.76	82.85	12.84	40.58	27.44	1.44	3.84	14.12	16.22	61.49	10.92	31.80
	3.124	9.102	3.583	6.370	5.238	1.200	1.960	3.757	4.028	7.842	3.304	5.639
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	24.32	22.27	19.10	21.89	21.85	22.60	21.17	21.87	23.49	22.38	19.79	21.89
	119.63	120.81	122.79	125.68	146.86	115.61	113.41	125.63	130.06	119.10	120.61	125.67
	10.938	10.991	11.081	11.211	12.119	10.752	10.649	11.209	11.404	10.913	10.982	11.210

ASSESSMENT CENTRE PROJECT DATA — TEST : ITPA AUDITORY CLOSURE — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	16.90	16.80	15.10	16.27	19.20	18.40	14.80	17.47	17.67	17.33	15.00	16.67
	7.29	8.96	36.49	18.26	5.36	21.04	8.56	15.32	7.82	13.56	27.20	17.60
	2.700	3.093	6.041	4.273	2.315	4.587	2.926	3.914	2.797	3.682	5.215	4.195
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.40	16.50	11.90	16.67	19.00	16.80	15.20	17.00	19.40	17.93	13.00	16.78
	5.24	12.45	26.69	26.36	5.20	9.36	11.36	11.07	5.31	12.06	24.00	21.28
	2.289	3.528	5.166	5.134	2.280	3.059	3.370	3.327	2.304	3.473	4.899	4.613
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.30	17.30	19.30	18.80	17.60	19.00	18.60	18.40	18.73	18.20	19.07	18.67
	7.61	9.36	5.61	8.03	7.84	4.00	2.64	5.17	8.33	7.89	4.73	7.11
	2.759	3.060	2.369	2.833	2.800	2.000	1.625	2.275	2.886	2.810	2.175	2.667
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.00	17.70	20.50	19.40	20.60	19.00	20.80	20.13	20.20	18.13	20.60	19.64
	8.40	8.01	6.85	9.24	5.04	4.80	6.96	6.25	7.36	7.32	6.91	8.36
	2.898	2.830	2.617	3.040	2.245	2.191	2.638	2.500	2.713	2.705	2.628	2.892
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.30	19.40	20.10	19.93	20.60	19.60	20.80	20.33	20.40	19.47	20.33	20.07
	7.41	7.64	6.29	7.40	21.44	17.04	2.56	13.96	12.37	10.78	5.16	9.62
	2.795	2.764	2.508	2.720	4.630	4.128	1.600	3.736	3.518	3.284	2.271	3.101
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.30	21.50	19.70	20.83	20.20	18.00	21.20	19.80	20.93	20.33	20.20	20.49
	3.01	11.45	9.81	8.74	2.96	6.00	17.76	10.69	3.26	12.36	12.96	9.63
	1.735	3.384	3.132	2.956	1.721	2.449	4.214	3.270	1.806	3.515	3.600	3.103
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.00	21.40	19.40	20.93	22.20	17.00	21.60	20.27	22.07	19.93	20.13	20.71
	3.80	8.24	15.44	10.40	17.76	2.80	3.44	13.40	8.46	10.73	12.52	11.49
	1.949	2.871	3.929	3.224	4.214	1.673	1.855	3.660	2.909	3.276	3.538	3.390
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.90	23.00	20.40	22.07	20.80	21.00	20.40	20.73	22.13	22.33	20.40	21.62
	4.36	22.60	5.04	12.06	2.96	3.60	11.84	6.20	4.78	17.16	7.31	10.50
	2.089	4.754	2.245	3.473	1.721	1.897	3.441	2.489	2.187	4.142	2.703	3.241
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.60	20.20	21.50	21.77	23.60	19.20	22.40	21.73	23.60	19.87	21.80	21.76
	10.24	11.96	5.65	11.58	14.64	7.36	27.84	20.06	11.71	10.65	13.89	14.41
	3.200	3.458	2.579	3.403	3.826	2.713	5.276	4.479	3.422	3.263	3.727	3.796
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.20	22.40	22.30	22.30	23.80	23.80	22.40	23.33	22.73	22.87	22.33	22.64
	5.56	10.44	5.01	7.34	18.96	0.96	1.84	7.69	10.60	7.72	4.62	7.70
	2.358	3.231	2.452	2.710	4.354	0.990	1.357	2.773	3.255	2.778	2.150	2.774
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.90	21.90	20.80	21.53	21.60	22.80	21.80	22.07	21.80	22.20	21.13	21.71
	6.49	4.69	9.14	7.05	3.04	4.56	8.16	5.53	5.36	4.83	9.05	6.61
	2.548	2.166	3.027	2.655	1.744	2.136	2.857	2.351	2.315	2.197	3.008	2.570
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.10	21.60	21.00	21.23	21.60	24.00	23.40	23.00	21.27	22.40	21.80	21.82
	8.69	7.64	4.60	7.05	7.04	4.80	0.24	5.07	8.20	7.97	4.43	7.08
	2.948	2.764	2.145	2.654	2.653	2.191	0.490	2.251	2.863	2.824	2.104	2.661
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	20.99	20.18	19.33	20.14	20.90	19.88	20.28	20.36	20.91	20.08	19.65	20.21
	9.58	14.27	19.46	14.85	17.39	12.84	15.50	13.75	10.51	13.81	18.34	14.49
	3.095	3.777	4.411	3.854	3.520	3.583	3.937	3.708	3.243	3.716	4.282	3.807

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
~~AGE~~												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.60	20.70	19.00	20.43	20.20	19.00	19.20	19.47	21.13	20.13	19.07	20.11
	7.44	14.01	16.20	13.71	3.76	14.80	22.56	13.98	6.65	14.92	18.33	14.01
	2.729	3.743	4.025	3.703	1.939	3.847	4.750	3.739	2.579	3.862	4.281	3.743
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.30	22.40	21.50	22.57	21.60	20.20	22.60	21.47	22.73	21.93	21.93	22.20
	3.41	13.06	32.44	17.11	6.64	10.56	6.64	8.92	5.13	14.33	24.06	14.65
	1.847	3.736	5.696	4.137	2.577	3.250	2.577	2.986	2.265	3.785	4.905	3.827
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.60	20.80	22.40	22.27	20.60	21.60	22.00	21.40	22.60	21.07	22.27	21.98
	10.24	13.36	10.84	12.80	14.64	10.64	10.40	12.24	13.71	12.60	10.73	12.78
	3.200	3.655	3.292	3.577	3.826	3.262	3.225	3.499	3.702	3.549	3.276	3.575
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	24.00	24.40	23.50	24.23	21.20	21.00	25.20	22.47	23.60	23.27	24.07	23.64
	11.76	11.84	8.85	11.11	19.36	12.80	22.16	21.85	17.17	14.73	13.93	15.39
	3.429	3.441	2.975	3.334	4.400	3.578	4.707	4.674	4.144	3.838	3.732	3.922
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.40	24.80	24.50	24.23	21.60	23.20	27.00	23.93	22.80	24.27	25.33	24.13
	10.34	25.76	12.95	16.65	18.64	29.36	2.00	21.80	13.76	27.53	10.62	18.38
	3.200	5.075	3.585	4.080	4.317	5.418	1.414	4.669	3.710	5.247	3.259	4.287
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	25.60	25.40	24.60	25.20	26.40	25.00	26.40	25.93	25.87	25.27	25.20	25.44
	19.44	21.44	26.44	21.29	8.64	23.60	6.64	13.40	13.32	22.20	20.56	18.78
	3.920	4.630	5.142	4.614	2.939	4.858	2.577	3.660	3.649	4.711	4.534	4.334
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	26.30	25.80	25.20	25.77	25.80	21.40	28.40	25.20	26.13	24.33	26.27	25.58
	18.81	25.96	13.36	19.91	23.76	9.44	19.84	26.03	21.18	24.76	17.80	22.02
	4.451	5.095	3.655	4.462	4.874	3.072	4.454	5.102	4.602	4.976	4.218	4.693
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	29.40	29.90	27.30	28.87	28.60	28.80	26.80	28.07	29.13	29.53	27.13	28.60
	26.04	19.89	18.91	22.85	13.84	27.36	14.96	19.53	22.12	22.65	17.58	21.88
	5.193	4.460	4.337	4.780	3.720	5.231	3.868	4.419	4.703	4.759	4.193	4.678
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	29.30	28.00	27.20	28.17	34.00	27.00	25.60	28.87	30.87	27.67	26.67	28.40
	30.21	7.60	10.76	16.94	11.20	18.80	32.24	34.25	28.78	11.56	18.49	22.82
	5.496	2.757	3.280	4.116	3.347	4.336	5.678	5.852	5.365	3.399	4.300	4.777
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	27.60	28.90	30.70	29.07	31.00	30.80	30.60	30.80	28.73	29.53	30.67	29.64
	40.84	10.29	10.01	22.00	20.80	16.56	23.44	20.29	36.73	13.18	14.49	22.10
	6.391	3.208	3.164	4.690	4.561	4.069	4.842	4.505	6.060	3.631	3.807	4.701
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	31.10	29.90	30.40	30.47	30.20	32.40	28.80	30.47	30.80	30.73	29.87	30.47
	24.89	23.09	14.44	21.05	7.76	11.84	26.56	17.58	19.36	20.73	19.05	19.89
	4.989	4.805	3.800	4.588	2.786	3.441	5.154	4.193	4.400	4.553	4.365	4.460
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	30.50	28.00	31.20	29.90	34.00	32.40	29.00	31.80	31.67	29.47	30.47	30.53
	24.45	29.80	9.06	23.29	5.20	2.64	22.80	14.56	20.76	25.05	15.32	21.18
	4.945	5.459	3.156	4.826	2.280	1.625	4.775	3.816	4.556	5.005	3.914	4.602
~~ALL~~	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	26.38	25.78	25.63	25.93	26.27	25.23	25.97	25.82	26.34	25.60	25.74	25.89
	27.93	27.75	23.95	28.32	37.96	37.68	27.53	34.58	31.28	31.13	28.50	30.41
	5.285	5.268	5.390	5.321	6.161	6.138	5.247	5.880	5.593	5.579	5.339	5.514

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.30	20.00	19.70	20.00	21.20	20.60	20.40	20.73	20.60	20.20	19.93	20.24
	40.41	14.22	10.61	23.53	15.36	15.44	0.64	10.60	35.71	14.69	7.40	19.34
	6.734	3.768	3.257	4.851	3.919	3.929	0.800	3.255	5.976	3.833	2.720	4.398
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.40	23.10	19.30	21.93	17.20	22.40	25.40	21.67	21.33	22.07	21.33	21.84
	13.74	27.29	24.41	25.13	11.36	15.44	0.64	22.62	21.16	23.45	26.76	24.31
	3.689	5.224	4.941	5.013	3.370	3.929	2.577	4.756	4.600	4.842	5.173	4.930
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.10	21.40	23.00	21.83	20.80	19.80	23.40	21.33	21.00	20.87	23.13	21.67
	9.88	14.24	15.89	13.74	38.16	10.16	10.64	21.96	18.80	13.45	14.12	16.53
	3.015	3.774	3.975	3.707	6.177	3.188	3.262	4.686	4.336	3.667	3.757	4.066
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.60	25.70	24.90	24.07	22.40	23.80	27.60	24.60	21.87	25.07	25.80	24.24
	10.44	25.01	37.29	30.40	10.24	4.56	16.64	15.31	16.62	19.00	32.03	25.43
	4.409	5.001	6.107	5.513	3.200	2.136	4.079	3.912	4.064	4.358	5.659	5.043
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	25.40	25.10	23.20	26.43	22.80	27.20	29.00	26.33	24.53	25.80	28.87	26.40
	14.44	32.39	22.56	26.11	6.16	8.96	15.60	17.02	13.18	25.89	20.25	23.08
	3.800	5.735	4.750	5.110	2.482	2.993	3.950	4.126	3.631	5.089	4.500	4.805
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.70	30.30	28.70	29.57	29.00	29.40	25.20	27.87	29.47	30.00	27.53	29.00
	27.01	23.01	13.21	21.51	41.20	20.24	43.76	38.65	31.85	22.27	26.12	27.87
	5.197	4.797	3.635	4.638	6.419	4.499	6.615	6.217	5.644	4.719	5.110	5.279
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.90	27.90	26.00	28.47	30.40	27.80	30.20	29.47	31.13	27.87	27.40	28.80
	20.05	63.49	11.20	39.78	25.44	30.96	9.76	23.45	28.12	52.65	14.64	34.56
	5.100	7.968	3.347	6.307	5.044	5.564	3.124	4.842	5.302	7.256	3.826	5.879
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	32.00	30.30	29.30	30.53	31.80	32.00	35.40	33.07	31.93	30.87	31.33	31.38
	10.20	9.21	23.61	15.58	39.36	20.00	8.24	25.26	19.93	13.45	26.76	20.24
	3.194	3.035	4.859	3.947	6.274	4.472	2.871	5.026	4.464	3.667	5.173	4.498
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	31.90	31.00	33.30	32.03	35.60	32.60	31.80	33.33	33.07	31.53	32.80	32.47
	28.16	33.80	30.01	30.90	13.04	3.44	48.56	24.36	25.00	24.25	36.69	29.09
	5.115	5.814	5.478	5.559	3.611	1.855	6.969	4.935	5.000	4.924	6.058	5.394
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	35.30	37.00	33.50	34.27	33.20	36.80	35.20	35.07	34.60	36.93	32.07	34.53
	47.01	21.00	25.45	38.73	5.36	19.76	13.76	15.13	34.11	20.60	26.46	31.00
	6.856	4.583	5.045	6.223	2.315	4.445	3.709	3.890	5.840	4.538	5.144	5.568
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	32.90	32.40	33.90	33.07	34.60	37.40	33.40	35.13	33.47	34.07	33.73	33.76
	40.89	26.24	33.09	33.90	13.84	15.04	50.64	29.32	32.52	28.06	39.00	33.25
	6.395	5.123	5.752	5.813	3.720	3.878	7.116	5.414	5.702	5.297	6.245	5.766
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	36.70	35.50	38.70	36.97	34.20	34.60	35.20	34.67	35.87	35.20	37.53	36.20
	13.81	36.85	30.81	28.90	22.16	20.64	20.56	21.29	17.98	31.63	30.12	27.54
	3.716	6.070	5.551	5.376	4.707	4.543	4.534	4.614	4.241	5.624	5.488	5.248
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	28.47	28.31	28.01	28.26	27.77	28.70	29.35	28.61	28.24	28.44	28.46	28.38
	55.63	53.96	53.08	54.56	58.51	49.91	43.76	51.15	56.70	52.65	50. 7	53.45
	7.459	7.346	7.347	7.387	7.649	7.065	6.615	7.152	7.530	7.256	7.139	7.311

ASSESSMENT CENTRE PROJECT DATA — TEST : ITPA SOUND BLENDING — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.60	10.90	11.60	12.03	15.00	17.00	6.60	12.87	14.07	12.93	9.93	12.31
	6.44	14.89	19.44	14.90	17.60	29.20	11.84	39.85	10.60	27.93	22.46	23.37
	2.538	3.859	4.409	3.860	4.195	5.404	3.441	6.313	3.255	5.285	4.739	4.834
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.00	13.20	11.50	14.20	19.00	11.20	10.60	13.60	18.27	12.53	11.20	14.00
	28.89	19.56	17.25	29.23	44.80	3.76	15.04	35.84	34.46	15.18	16.69	31.51
	5.375	4.423	4.153	5.406	6.693	1.939	3.878	5.987	5.870	3.896	4.086	5.613
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	18.90	17.80	16.50	17.73	19.00	22.60	16.60	19.40	18.93	19.40	16.53	18.29
	36.49	58.96	36.85	45.06	57.60	12.24	40.24	42.77	43.53	48.51	37.98	44.92
	6.041	7.679	6.070	6.713	7.589	3.499	6.344	6.540	6.598	6.965	6.163	6.702
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.00	20.40	17.90	20.10	26.80	24.60	23.00	24.80	23.60	21.80	19.60	21.67
	22.40	37.04	29.29	30.76	13.76	29.84	20.40	23.76	24.64	32.23	32.11	33.33
	4.733	5.660	5.412	5.546	3.710	5.463	4.517	4.874	4.964	5.935	5.666	5.774
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.50	20.20	18.20	19.63	19.00	21.00	25.40	21.80	20.00	20.47	20.60	20.36
	13.05	29.56	24.76	24.17	26.80	36.40	16.24	33.63	19.47	31.98	33.44	28.36
	3.879	5.437	4.976	4.916	5.177	6.033	4.030	5.799	4.412	5.655	5.783	5.326
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.40	22.20	17.90	21.17	22.00	19.00	20.20	20.40	22.93	21.13	18.67	20.91
	22.24	32.36	21.29	30.87	12.40	10.00	45.76	24.24	19.40	27.18	30.62	28.79
	4.716	5.689	4.614	5.556	3.521	3.162	6.765	4.923	4.404	5.214	5.534	5.366
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.50	21.20	18.80	21.17	25.80	23.00	24.40	24.40	24.27	21.80	20.67	22.24
	13.05	44.56	35.36	34.67	6.96	38.00	26.24	25.04	12.20	43.09	39.29	33.79
	3.612	6.675	5.946	5.888	2.638	6.164	5.123	5.004	3.492	6.565	6.268	5.813
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	26.30	22.20	16.70	21.73	23.20	19.60	24.40	22.40	25.27	21.33	19.27	21.96
	8.41	70.16	31.61	52.20	10.96	43.04	15.44	27.31	11.40	62.62	39.40	44.00
	2.900	8.378	5.622	7.225	3.311	6.561	3.929	5.226	3.378	7.913	6.277	6.633
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	25.70	22.20	20.60	22.83	27.40	21.40	17.80	22.20	26.27	21.93	19.67	22.62
	16.61	18.76	18.64	22.54	6.64	37.84	56.96	49.49	13.93	25.26	33.16	31.61
	4.076	4.331	4.317	4.748	2.577	6.151	7.547	7.035	3.732	5.026	5.758	5.623
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	24.60	23.30	21.10	23.00	23.60	22.60	24.20	23.47	24.27	23.07	22.13	23.16
	24.04	17.41	31.49	26.40	16.24	17.84	8.56	14.65	21.66	17.66	25.98	22.53
	4.903	4.173	5.612	5.138	4.030	4.224	2.926	3.827	4.654	4.203	5.097	4.747
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.60	22.20	20.40	22.07	24.20	24.80	28.40	25.80	23.80	23.07	23.07	23.31
	22.44	27.16	53.84	36.20	1.36	10.96	3.04	8.56	15.49	23.26	51.13	30.08
	4.737	5.212	7.338	6.016	1.166	3.311	1.744	2.926	3.936	4.823	7.150	5.485
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.70	24.40	22.20	23.10	26.60	21.60	21.60	23.27	24.00	23.47	22.00	23.16
	25.21	9.84	56.76	31.49	7.04	37.84	45.04	35.53	22.53	20.92	52.93	32.84
	5.021	3.137	7.534	5.612	2.653	6.151	6.711	5.961	4.747	4.573	7.276	5.731
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	21.89	20.02	17.78	19.90	22.63	20.70	20.27	21.20	22.14	20.24	18.61	20.33
	32.21	46.70	41.97	43.11	32.50	38.41	63.00	45.69	32.43	44.04	50.35	44.35
	5.676	6.834	6.478	6.566	5.701	6.198	7.937	6.760	5.695	6.636	7.096	6.660

ASSESSMENT CENTRE PROJECT DATA — TEST : SLINGERLAND ECHOLALIA — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.50	19.30	21.40	21.07	23.00	23.40	21.80	22.73	22.67	20.67	21.53	21.62
	1.65	22.51	5.64	11.73	0.40	1.44	3.76	2.33	1.29	19.29	5.05	9.21
	1.284	4.755	2.375	3.425	0.632	1.200	1.939	1.526	1.136	4.392	2.247	3.035
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.30	16.90	17.10	17.10	17.00	17.00	18.00	17.33	17.20	16.93	17.20	17.18
	1.61	8.09	1.69	4.49	4.40	-0.0	2.80	2.62	3.89	5.40	2.24	3.88
	1.000	2.844	1.300	2.119	2.098	0.0	1.673	1.619	1.973	2.323	1.497	1.970
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.00	19.30	19.20	18.20	17.20	18.20	18.80	18.07	17.67	18.40	18.40	18.16
	5.49	4.45	1.68	3.99	4.96	1.36	0.56	2.73	5.42	3.44	1.31	3.51
	2.343	2.109	1.249	1.973	2.227	1.166	0.749	1.652	2.329	1.855	1.143	1.873
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.80	23.00	21.50	22.10	23.00	24.00	22.20	23.07	22.20	23.33	21.73	22.42
	2.56	1.40	4.45	4.56	0.40	-0.0	2.86	1.66	4.83	1.16	4.06	3.80
	2.561	1.183	2.109	2.135	0.632	0.0	1.720	1.289	2.197	1.075	2.016	1.949
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.60	22.10	21.00	22.23	23.60	21.20	20.80	21.87	23.60	21.80	20.93	22.11
	0.64	5.29	5.40	4.01	1.04	22.16	5.36	11.05	0.77	11.07	5.40	6.99
	0.800	2.300	2.324	2.216	1.020	4.707	2.315	3.324	0.880	3.331	2.323	2.643
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.30	20.40	19.10	19.60	19.80	17.60	18.40	18.60	19.47	19.47	18.87	19.27
	26.21	5.24	10.29	14.57	17.56	19.84	5.44	13.44	21.72	12.52	8.78	14.42
	5.120	2.408	3.208	3.818	3.544	4.454	2.332	3.666	4.660	3.538	2.964	3.797
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.40	19.50	17.90	18.93	22.20	18.20	19.80	20.07	20.33	19.07	18.53	19.31
	11.24	7.45	12.09	10.80	0.76	17.76	8.56	14.73	12.49	11.26	11.72	12.39
	3.353	2.729	3.477	3.286	3.124	4.214	2.926	3.838	3.534	3.356	3.423	3.520
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.20	20.10	19.60	20.63	19.80	21.40	19.40	20.20	21.40	20.53	19.53	20.49
	4.56	16.99	4.44	10.03	9.36	14.64	1.44	9.23	8.11	16.12	3.45	9.81
	2.359	4.036	2.107	3.167	3.060	3.826	1.200	3.038	2.847	4.014	1.857	3.131
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.70	22.00	19.90	21.50	22.60	21.40	18.60	20.87	22.00	22.40	19.47	21.29
	7.61	6.09	4.69	7.65	2.64	2.24	18.24	10.52	6.13	5.31	9.58	8.69
	2.756	2.468	2.166	2.766	1.625	1.497	4.271	3.243	2.477	2.304	3.096	2.949
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	23.40	22.90	20.90	21.77	22.40	22.00	21.40	21.93	22.40	22.00	21.07	21.82
	4.84	5.60	7.69	6.45	1.84	5.20	5.04	4.20	3.84	5.47	6.86	5.70
	2.200	2.366	2.773	2.539	1.357	2.280	2.245	2.048	1.960	2.338	2.620	2.388
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	22.70	22.40	21.50	22.20	23.40	23.00	24.00	23.47	22.93	22.60	22.33	22.62
	4.41	5.24	5.65	5.36	1.04	2.40	1.60	1.85	3.40	4.37	5.69	4.55
	2.100	2.289	2.377	2.315	1.020	1.549	1.265	1.360	1.843	2.091	2.385	2.132
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.10	21.00	23.00	21.70	21.60	21.60	20.80	21.33	21.27	21.20	22.27	21.58
	10.49	7.60	3.80	8.14	15.04	9.04	0.16	8.22	12.06	8.16	3.66	8.20
	3.239	2.757	1.949	2.854	3.878	3.007	0.401	2.867	3.473	2.857	1.914	2.864
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	20.99	20.67	20.09	20.59	21.30	20.75	20.33	20.79	21.09	20.70	20.17	20.66
	11.13	11.35	8.47	10.45	10.21	13.25	7.69	10.54	10.84	11.99	8.22	10.49
	3.335	3.369	2.910	3.233	3.195	3.641	2.773	3.247	3.293	3.462	2.867	3.239

xi

ASSESSMENT CENTRE PROJECT DATA — TEST — SOUTHERN [illegible] BOOK

SEX:	<--- MALE			--->	<--- FEMALE			--->	<--- MALE & FEMALE			--->
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.20	13.90	13.50	13.87	14.60	13.80	5.40	14.60	14.33	13.87	14.13	14.11
	[illegible]	13.09	5.95	9.32	5.44	17.76	5.04	9.84	7.69	14.65	6.38	9.61
	2.440	3.618	2.419	3.052	2.332	4.214	2.245	3.137	2.773	3.827	2.526	3.100
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	15.20	14.70	13.20	14.70	15.20	13.40	13.80	14.13	15.67	14.40	13.47	14.51
	8.09	8.69	16.61	12.28	2.16	1.84	3.36	3.05	6.22	6.91	12.25	9.27
	2.844	2.948	4.076	3.504	1.470	1.356	1.833	1.746	2.494	2.628	3.500	3.045
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	15.20	14.50	15.40	15.03	17.40	14.60	15.20	15.73	15.93	14.53	15.33	15.27
	7.96	1.65	7.44	5.83	9.84	5.84	13.36	11.13	9.66	3.05	9.42	7.71
	2.821	1.285	2.728	2.415	3.137	2.417	3.655	3.336	3.108	1.746	3.070	2.776
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	15.80	15.80	15.50	15.43	14.60	16.20	20.20	17.00	14.87	15.93	17.07	15.96
	7.60	8.56	17.05	11.18	1.84	5.76	15.76	13.33	5.72	7.66	21.53	12.44
	2.757	2.926	4.129	3.343	1.356	2.400	3.970	3.651	2.391	2.768	4.640	3.527
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.70	16.80	19.80	18.10	16.40	18.20	18.60	17.73	17.27	17.27	19.40	17.98
	8.91	2.58	4.96	7.02	4.24	7.76	3.84	6.20	7.66	4.73	4.91	6.78
	2.968	1.600	2.227	2.650	2.059	2.786	1.960	2.489	2.768	2.175	2.215	2.603
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.50	17.50	18.80	18.60	16.60	19.40	18.40	18.13	18.53	18.13	18.67	18.44
	16.25	13.25	6.56	12.71	9.84	1.84	6.24	7.32	15.98	10.25	6.49	10.96
	4.031	3.640	2.561	3.565	3.137	1.357	2.498	2.705	3.998	3.201	2.547	3.310
9.0	10.	10.	10.	30.	5.	5.	5.	15.	10.	15.	15.	45.
	19.40	20.40	18.70	19.17	18.80	20.40	19.00	19.40	18.53	20.40	18.80	19.24
	17.04	10.44	19.41	16.07	8.56	7.44	7.20	8.24	14.25	9.44	14.69	13.47
	4.129	3.231	4.291	4.009	2.926	2.728	2.683	2.871	3.775	3.072	3.833	3.671
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.40	21.40	21.20	20.67	19.20	18.40	19.60	19.07	19.33	20.40	20.67	20.13
	23.24	4.44	9.76	13.36	6.96	19.84	5.04	10.86	17.82	11.71	8.76	13.09
	4.821	2.154	3.124	3.655	2.638	4.454	2.245	3.293	4.222	3.422	2.959	3.618
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.10	15.80	18.60	18.17	23.20	21.20	19.40	21.27	21.13	17.60	18.87	19.20
	17.49	10.76	21.24	19.67	20.56	19.76	3.44	17.00	20.65	20.24	15.45	20.92
	4.182	3.280	4.609	4.435	4.534	4.445	1.855	4.123	4.544	4.499	3.931	4.573
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	20.20	18.80	20.30	19.77	20.00	23.20	20.40	21.20	20.13	20.27	20.33	20.24
	7.75	13.36	14.61	12.38	8.40	2.16	24.64	13.76	7.98	13.93	17.96	13.30
	2.796	3.655	3.822	3.518	2.898	1.470	4.964	3.709	2.825	3.732	4.237	3.646
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	19.70	20.20	22.00	20.63	23.20	26.20	21.80	23.73	20.87	22.20	21.93	21.67
	9.91	13.76	9.80	12.10	5.76	12.96	12.16	13.66	11.18	21.49	10.60	14.76
	3.132	3.709	3.130	3.478	2.400	3.600	3.487	3.696	3.344	4.636	3.255	3.841
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	21.60	20.60	20.50	21.00	22.40	20.80	18.00	20.40	22.07	20.67	19.67	20.80
	30.09	6.04	45.45	27.60	3.44	12.96	16.00	14.11	21.26	8.36	37.02	23.18
	5.485	2.458	6.742	5.254	1.855	3.600	4.000	3.756	4.611	2.891	6.085	4.815
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	18.19	17.55	18.13	17.93	18.47	18.82	18.32	18.53	18.22	17.97	18.19	18.13
	19.19	15.33	22.95	19.23	16.65	23.48	14.85	18.37	18.37	18.41	20.26	19.02
	4.381	3.916	4.791	4.385	4.080	4.846	3.854	4.286	4.286	4.290	4.501	4.362

xii

ASSESSMENT CENTRE PROJECT DATA — TEST : REITAN TARGET — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	10.60	8.30	10.30	9.63	8.00	10.80	12.80	10.53	9.73	8.93	11.13	9.93
	9.04	8.20	12.01	11.10	2.80	2.96	3.76	7.05	8.46	8.20	10.65	9.93
	2.907	2.864	3.466	3.331	1.673	1.720	1.939	2.655	2.909	2.863	3.263	3.151
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	12.10	9.40	9.30	10.23	9.00	9.80	9.20	9.13	11.07	9.33	9.20	9.87
	12.69	13.04	2.06	11.31	11.60	7.76	11.76	10.38	14.46	11.29	5.82	11.27
	3.562	3.811	1.720	3.363	3.406	2.786	3.429	3.222	3.803	3.360	2.428	3.357
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	9.60	12.20	13.10	11.97	9.00	10.60	13.00	10.87	9.40	12.13	13.07	11.53
	6.24	5.48	8.49	9.52	9.20	10.64	11.20	13.05	7.71	8.38	9.40	10.92
	2.615	2.343	2.914	3.085	3.033	3.262	3.347	3.612	2.776	2.865	3.065	3.304
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	13.40	14.30	14.10	14.60	10.60	11.00	14.00	11.87	13.80	13.20	14.07	13.69
	12.64	12.41	11.22	12.44	5.04	4.80	9.20	8.65	15.23	12.29	10.60	12.84
	3.655	3.523	3.360	3.527	2.245	2.191	3.033	2.941	3.902	3.506	3.255	3.583
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.70	15.30	15.50	15.07	11.60	12.40	13.40	12.47	13.67	14.13	14.80	14.20
	11.41	5.40	5.65	7.66	11.94	11.84	11.44	12.25	13.69	9.18	8.56	10.69
	3.375	2.366	2.377	2.768	3.441	3.441	3.382	3.500	3.700	3.030	2.926	3.270
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.70	15.40	15.20	15.43	12.00	11.60	12.60	12.07	13.80	14.13	15.00	14.31
	9.01	11.04	3.76	8.31	13.60	14.64	16.64	15.13	12.16	15.45	10.93	13.10
	3.002	3.323	1.939	2.883	3.688	3.826	4.079	3.890	3.487	3.931	3.307	3.620
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.70	16.40	15.20	16.43	13.80	13.20	16.80	14.60	16.40	15.33	15.73	15.82
	5.81	7.24	14.16	10.11	4.56	20.16	5.36	12.51	8.77	13.82	11.80	11.66
	2.410	2.891	3.763	3.180	2.135	4.490	2.315	3.536	2.962	3.718	3.434	3.414
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.40	17.00	16.60	17.00	15.00	14.60	16.60	15.40	16.60	16.20	16.60	16.47
	6.04	8.80	6.24	7.13	6.00	8.24	3.44	6.64	7.31	9.89	5.31	7.54
	2.458	2.966	2.498	2.671	2.449	2.871	1.855	2.577	2.703	3.145	2.304	2.746
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	16.90	16.30	16.40	16.53	18.20	18.20	15.60	17.33	17.33	16.93	16.13	16.90
	4.69	8.01	6.64	6.52	0.96	2.96	8.64	5.69	3.82	7.13	7.45	6.38
	2.166	2.830	2.577	2.553	0.980	1.721	2.939	2.385	1.955	2.670	2.729	2.526
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	14.20	15.70	14.00	16.73	17.20	17.60	15.80	16.87	18.07	16.33	15.93	16.78
	1.45	9.61	12.80	9.53	3.76	5.44	4.56	5.18	2.60	9.02	10.06	8.08
	1.204	3.100	3.578	3.087	1.939	2.332	2.135	2.277	1.611	3.004	3.172	2.843
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.50	17.60	17.20	17.43	19.00	17.80	17.40	18.07	18.00	17.67	17.27	17.64
	5.25	7.84	7.56	6.91	2.40	4.16	9.64	4.20	4.80	6.62	6.60	6.10
	2.291	2.800	2.750	2.629	1.549	2.040	2.154	2.048	2.191	2.573	2.568	2.469
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	17.60	17.60	18.20	17.80	18.20	18.00	18.00	18.07	17.80	17.73	18.13	17.89
	1.44	7.64	1.76	3.69	1.76	1.20	1.20	1.40	1.63	5.53	1.58	2.94
	1.200	2.764	1.327	1.922	1.327	1.095	1.095	1.181	1.276	2.351	1.258	1.716
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	15.22	14.63	14.33	14.90	13.47	13.75	14.60	13.94	14.64	14.34	14.76	14.58
	15.41	17.53	14.62	15.91	20.75	18.	13.61	17.75	17.88	17.92	14.30	16.73
	3.925	4.187	3.824	3.989	4.555	4.265	3.689	4.213	4.228	4.234	3.781	4.090

ASSESSMENT CENTRE PROJECT DATA — TEST : WEPMAN X — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	6.20	5.90	4.70	5.60	4.00	2.00	8.00	4.67	5.47	4.60	5.80	5.29
	12.84	5.99	7.21	9.11	4.40	0.40	16.40	13.29	11.18	7.44	12.69	10.69
	3.600	2.427	2.685	3.018	2.098	0.632	4.050	3.645	3.344	2.728	3.563	3.270
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	3.77	3.70	4.50	3.83	4.20	3.20	7.40	4.93	3.60	3.53	5.47	4.20
	6.41	9.81	12.25	9.74	2.96	0.96	9.84	7.80	5.44	6.92	13.32	9.36
	2.532	3.132	3.500	3.121	1.720	0.980	3.137	2.792	2.332	2.630	3.649	3.059
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	3.80	3.20	4.20	3.73	3.00	1.20	3.20	2.47	3.53	2.53	3.87	3.31
	6.56	4.36	8.76	5.40	5.60	0.56	0.96	3.18	5.05	3.98	5.05	5.01
	2.135	2.088	2.600	2.323	2.366	0.748	0.980	1.784	2.247	1.996	2.247	2.239
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.80	2.40	2.10	2.43	1.20	1.20	1.80	1.40	2.27	2.00	2.00	2.09
	5.16	2.64	5.89	4.65	0.56	0.56	3.76	1.71	4.20	2.27	5.20	3.90
	2.272	1.625	2.427	2.155	0.748	0.748	1.939	1.306	2.048	1.506	2.280	1.976
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.10	2.00	2.20	2.13	2.60	2.00	1.40	2.00	2.27	2.00	2.00	2.09
	1.09	3.60	1.81	2.12	1.04	4.80	0.24	2.27	1.13	3.87	1.47	2.17
	1.044	1.944	1.345	1.454	1.020	2.191	0.490	1.506	1.062	1.966	1.211	1.473
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.00	2.60	2.10	2.53	2.60	0.80	1.80	1.73	2.80	2.00	2.00	2.27
	0.49	2.04	1.89	1.58	1.94	1.36	3.36	2.73	0.96	2.53	2.40	2.11
	0.700	1.428	1.375	1.258	1.356	1.166	1.833	1.652	0.980	1.592	1.549	1.451
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.00	1.00	3.20	2.67	1.00	1.60	1.00	1.20	2.27	1.80	2.47	2.18
	1.60	1.49	2.56	2.36	0.40	4.24	1.20	2.03	2.06	2.69	3.18	2.72
	1.100	1.375	1.600	1.535	0.632	2.059	1.095	1.424	1.436	1.641	1.784	1.650
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.10	2.20	2.00	2.10	1.60	3.80	1.00	2.13	1.93	2.73	1.67	2.11
	3.69	3.16	5.60	4.16	0.64	6.96	2.40	4.78	2.73	5.00	4.76	4.37
	1.921	1.778	2.366	2.039	0.800	2.638	1.549	2.187	1.652	2.235	2.181	2.089
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.00	2.70	1.40	2.03	2.20	1.60	2.40	2.07	2.07	2.33	1.73	2.04
	2.20	2.81	2.04	2.57	2.16	1.84	3.04	2.46	2.20	2.62	2.60	2.53
	1.483	1.616	1.428	1.602	1.470	1.356	1.744	1.569	1.482	1.619	1.611	1.591
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	1.32	2.20	1.40	1.63	1.40	1.20	1.00	1.20	1.33	1.87	1.27	1.49
	1.21	0.96	1.04	1.23	0.24	1.36	0.40	0.69	0.89	1.32	0.86	1.09
	1.100	0.980	1.020	1.110	0.490	1.166	0.632	0.833	0.943	1.147	0.929	1.046
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	2.00	1.70	1.10	1.60	2.40	1.60	0.60	1.53	2.13	1.67	0.93	1.58
	1.60	1.21	0.69	1.31	0.24	1.84	0.64	1.45	1.18	1.42	0.73	1.36
	1.265	1.100	0.831	1.143	0.490	1.356	0.800	1.204	1.087	1.193	0.854	1.164
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	1.80	0.80	1.60	1.40	1.20	1.40	2.00	1.53	1.60	1.00	1.73	1.44
	1.36	0.96	2.24	1.71	0.56	1.44	2.40	1.58	1.17	1.20	2.33	1.67
	1.166	0.980	1.497	1.306	0.748	1.200	1.549	1.258	1.083	1.095	1.526	1.292
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	2.77	2.61	2.55	2.64	2.28	1.80	2.63	2.24	2.61	2.34	2.58	2.51
	5.06	4.72	5.66	5.16	2.77	2.89	9.33	5.12	4.35	4.26	6.89	5.18
	2.250	2.173	2.380	2.271	1.664	1.701	3.055	2.262	2.086	2.063	2.625	2.276

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SFS:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.80	0.50	0.40	0.57	0.80	0.40	0.60	0.60	0.80	0.47	0.47	0.58
	0.84	1.02	0.24	0.78	0.56	0.24	0.64	0.51	0.83	0.78	0.38	0.69
	0.920	1.025	0.490	0.893	0.748	0.490	0.800	0.712	0.909	0.884	0.618	0.830
6.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.80	0.50	0.30	0.53	0.0	1.20	0.40	0.53	0.53	0.73	0.33	0.53
	0.76	0.25	0.21	0.45	-0.0	0.96	0.24	0.65	0.65	0.60	0.22	0.52
	0.872	0.500	0.458	0.670	0.0	0.980	0.490	0.806	0.806	0.772	0.471	0.718
7.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.20	0.70	0.30	0.60	0.20	1.20	0.40	0.60	0.60	0.87	0.33	0.60
	0.84	1.01	0.21	0.77	0.16	1.36	0.24	0.77	0.77	1.18	0.22	0.77
	0.880	1.005	0.458	0.879	0.400	1.166	0.490	0.879	0.879	1.087	0.471	0.879
7.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.10	0.40	0.50	0.33	0.60	0.20	0.0	0.27	0.27	0.33	0.33	0.31
	0.09	0.54	0.85	0.62	0.64	0.16	-0.0	0.33	0.33	0.62	0.62	0.53
	0.300	0.917	0.922	0.789	0.800	0.400	0.0	0.573	0.573	0.789	0.789	0.725
8.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.60	0.50	0.70	0.60	0.0	0.20	0.80	0.33	0.40	0.40	0.73	0.51
	0.84	0.55	0.41	0.714	-0.0	0.16	0.56	0.36	0.64	0.64	0.46	0.61
	0.917	0.922	0.640	0.841	0.0	0.400	0.748	0.596	0.800	0.800	0.680	0.778
8.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.0	0.20	0.50	0.23	0.20	0.20	0.40	0.27	0.07	0.20	0.47	0.24
	-0.0	0.36	0.65	0.38	0.16	0.16	0.24	0.20	0.06	0.29	0.52	0.32
	0.0	0.600	0.806	0.616	0.400	0.400	0.490	0.442	0.249	0.542	0.718	0.564
9.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.80	0.60	0.20	0.43	0.20	0.60	0.60	0.47	0.40	0.60	0.33	0.44
	0.65	0.64	0.16	0.51	0.16	0.64	0.64	0.52	0.51	0.64	0.36	0.51
	0.806	0.800	0.400	0.716	0.400	0.800	0.800	0.748	0.712	0.800	0.596	0.717
9.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.30	0.30	0.70	0.43	0.80	0.20	1.20	0.73	0.47	0.27	0.87	0.53
	0.21	0.21	0.81	0.45	0.16	0.16	2.16	1.00	0.25	0.20	1.32	0.65
	0.458	0.458	0.900	0.667	0.400	0.400	1.470	0.993	0.499	0.442	1.147	0.806
10.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.40	0.10	0.50	0.33	0.60	0.20	0.0	0.27	0.47	0.13	0.33	0.31
	0.24	0.09	1.05	0.49	1.44	0.16	-0.0	0.60	0.65	0.12	0.76	0.53
	0.490	0.300	1.025	0.699	1.200	0.400	0.0	0.772	0.806	0.340	0.869	0.725
10.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.10	0.10	0.30	0.17	0.40	0.20	0.80	0.47	0.20	0.13	0.47	0.27
	0.09	0.09	0.41	0.21	0.24	0.16	0.56	0.38	0.16	0.12	0.52	0.28
	0.300	0.300	0.640	0.453	0.490	0.400	0.748	0.618	0.400	0.340	0.718	0.533
11.0	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.40	0.60	0.10	0.37	0.0	0.0	0.60	0.20	0.27	0.40	0.27	0.31
	0.44	0.44	0.09	0.37	-0.0	-0.0	0.64	0.29	0.33	0.37	0.33	0.35
	0.663	0.663	0.300	0.605	0.0	0.0	0.800	0.542	0.573	0.611	0.573	0.590
11.6	10.	10.	10.	30.	5.	5.	5.	15.	15.	15.	15.	45.
	0.40	0.20	0.90	0.50	0.40	0.60	0.20	0.40	0.40	0.33	0.67	0.47
	0.44	0.16	1.09	0.65	0.24	0.64	0.16	0.37	0.37	0.36	0.89	0.56
	0.663	0.400	1.044	0.806	0.490	0.800	0.400	0.611	0.611	0.596	0.943	0.748
ALL	120.	120.	120.	360.	60.	60.	60.	180.	180.	180.	180.	540.
	0.43	0.39	0.45	0.42	0.35	0.43	0.50	0.43	0.41	0.41	0.47	0.43
	0.55	0.54	0.56	0.55	0.39	0.55	0.62	0.52	0.50	0.54	0.58	0.54
	0.739	0.734	0.751	0.742	0.628	0.739	0.785	0.723	0.705	0.736	0.763	0.735

TEST STANDARDIZATION STUDY DATA — TEST : PEABODY I Q — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 114.43 220.39 15.146	7. 113.86 19.27 4.389	7. 117.71 195.64 13.987	21. 115.33 150.99 12.288	7. 103.29 129.64 11.385	7. 111.57 232.82 15.258	7. 100.86 112.98 10.629	21. 108.24 171.23 13.082	14. 108.86 210.55 14.510	14. 112.71 127.35 11.285	14. 113.79 169.74 13.029	42. 111.79 173.60 13.179
6.6	7. 109.57 93.10 9.649	7. 113.86 281.27 16.771	7. 109.57 151.11 12.292	21. 110.67 180.42 13.432	7. 109.43 141.10 11.879	7. 104.00 74.00 8.602	7. 92.57 50.53 7.109	21. 102.00 137.90 11.743	14. 109.00 117.29 10.830	14. 108.93 201.93 14.210	14. 101.07 173.07 13.156	42. 106.33 177.04 13.330
7.0	7. 123.14 270.99 16.461	7. 109.57 159.59 12.636	7. 114.14 100.70 10.035	21. 115.62 204.91 14.454	7. 100.86 290.13 17.033	7. 108.14 81.27 9.015	7. 102.00 131.14 11.452	21. 103.67 177.75 13.332	14. 112.00 404.71 20.117	14. 108.86 120.98 10.999	14. 108.07 152.78 12.360	42. 106.64 239.04 15.134
7.6	7. 113.71 127.92 11.310	7. 107.57 393.68 19.589	7. 87.71 533.92 23.107	21. 101.00 471.62 21.717	7. 100.86 176.41 13.282	7. 103.43 89.39 9.455	7. 99.71 185.92 13.635	21. 101.33 152.98 12.369	14. 107.29 193.49 13.910	14. 105.50 240.82 15.518	14. 93.71 395.92 19.898	42. 102.17 313.00 17.689
8.0	7. 109.29 569.06 23.855	7. 110.43 101.96 10.098	7. 115.86 189.27 13.757	21. 111.52 296.91 17.231	7. 101.00 101.71 10.085	7. 101.43 204.25 14.292	7. 98.86 43.27 6.578	21. 100.43 117.68 10.848	14. 104.64 348.66 18.672	14. 105.93 173.35 13.166	14. 107.36 198.52 13.730	42. 105.98 238.07 15.430
8.6	7. 113.29 172.21 13.123	7. 107.86 168.41 12.977	7. 112.86 212.70 14.584	21. 111.33 190.51 13.802	7. 104.43 143.11 11.963	7. 109.43 163.68 12.794	7. 101.57 328.82 18.133	21. 105.14 222.41 14.913	14. 108.86 177.27 13.314	14. 109.64 166.66 12.910	14. 107.21 302.60 17.395	42. 106.24 216.04 14.698
9.0	7. 114.57 91.10 9.545	7. 111.43 116.54 10.795	7. 104.29 74.49 8.631	21. 110.10 112.57 10.610	7. 106.86 32.70 5.718	7. 106.43 117.11 10.822	7. 101.29 64.21 8.013	21. 104.86 77.75 8.817	14. 110.71 76.78 8.762	14. 108.93 123.07 11.094	14. 102.79 71.60 8.462	42. 107.48 102.01 10.100
9.6	7. 109.29 85.63 9.254	7. 114.29 39.49 6.284	7. 103.00 257.71 16.053	21. 109.52 149.54 12.188	7. 101.86 146.55 12.229	7. 106.86 196.70 14.025	7. 91.86 48.98 6.999	21. 100.19 170.63 13.063	14. 105.07 127.92 11.310	14. 110.57 131.39 11.462	14. 97.43 194.36 13.579	42. 134.36 176.95 13.302
10.0	7. 119.14 112.98 10.629	7. 108.43 106.25 10.308	7. 110.71 183.92 13.562	21. 112.76 155.61 12.474	7. 109.71 233.63 15.285	7. 105.71 71.35 8.447	7. 97.43 44.25 6.652	21. 104.29 142.59 11.941	14. 114.43 195.53 13.983	14. 107.07 90.64 9.520	14. 104.07 158.21 12.578	42. 108.52 147.06 12.925
10.6	7. 104.71 230.49 15.182	7. 105.14 51.55 7.180	7. 102.86 36.98 6.081	21. 104.24 107.33 10.360	7. 102.14 79.98 8.887	7. 94.43 18.25 4.272	7. 99.86 101.84 13.881	21. 98.81 106.82 10.336	14. 103.43 156.39 12.506	14. 99.79 63.60 7.975	14. 101.36 116.66 10.801	42. 101.93 114.44 10.698
11.0	7. 107.43 104.92 10.238	7. 102.86 14.41 3.797	7. 98.43 113.68 10.662	21. 102.90 91.14 9.547	7. 106.98 36.55 6.063	7. 99.14 73.84 8.593	7. 102.14 450.41 21.223	21. 102.71 196.68 14.024	14. 107.14 70.27 8.382	14. 101.00 47.57 6.897	14. 100.29 285.43 16.896	42. 102.81 143.02 11.997
11.6	7. 109.86 113.84 10.670	7. 106.14 90.98 9.538	7. 102.00 56.57 7.521	21. 106.00 97.43 9.870	7. 102.57 112.25 10.595	7. 102.43 93.39 9.664	7. 93.43 87.68 9.364	21. 99.48 116.06 10.773	14. 106.21 126.31 11.239	14. 104.29 85.63 9.779	14. 97.71 90.49 9.513	42. 102.74 117.30 10.835
ALL	84. 112.12 209.30 14.467	84. 109.29 139.95 11.830	84. 106.60 242.88 15.585	252. 109.33 202.46 14.229	84. 104.15 145.20 12.050	84. 104.42 138.29 11.760	84. 99.21 167.93 12.959	252. 107.60 156.20 12.498	168. 108.14 193.11 13.896	168. 106.85 145.05 12.044	168. 102.90 219.03 14.800	504. 105.96 190.68 13.809

THE BOARD OF EDUCATION FOR THE BOROUGH OF NORTH YORK

TEST STANDARDIZATION STUDY DATA — TEST : PEABODY RAW SCORE — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE		- - - >	< - - - FEMALE		- - - >	< - - - MALE & FEMALE		- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	63.57	62.57	65.86	64.00	57.86	61.71	60.43	60.00	60.71	63.14	63.14	62.00
	89.67	4.82	51.27	50.47	20.98	59.92	28.25	38.95	63.49	32.52	47.12	48.71
	9.470	2.195	7.160	7.104	4.580	7.741	5.315	6.241	7.968	5.705	6.865	6.980
6.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	65.71	69.43	65.71	66.95	65.71	63.00	57.00	61.90	65.71	66.21	61.36	64.43
	35.06	121.39	41.35	69.00	37.64	18.96	14.00	36.75	36.35	80.46	46.46	59.25
	5.921	11.018	6.430	8.307	6.135	4.342	3.742	6.062	6.029	8.970	6.831	7.697
7.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	74.00	66.71	69.00	69.00	62.43	64.29	61.86	62.86	68.21	65.50	65.43	66.28
	70.86	58.49	33.71	63.61	63.10	18.78	34.70	39.93	100.45	40.11	46.96	64.19
	8.418	7.648	5.806	7.976	7.944	4.333	5.890	6.319	10.023	6.333	6.853	8.017
7.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	73.71	69.00	72.14	71.62	63.86	67.71	65.71	65.76	68.79	68.36	68.93	68.69
	43.06	89.71	140.98	98.09	22.69	29.02	61.35	40.47	57.17	80.23	111.50	74.36
	6.562	9.472	11.874	9.752	4.764	5.470	7.832	6.362	7.561	7.761	10.559	8.738
8.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	78.14	71.00	75.00	74.71	67.86	67.43	66.00	67.10	73.00	69.21	70.50	70.00
	156.41	58.57	62.29	100.96	30.12	57.68	10.57	33.42	119.71	61.31	56.68	81.71
	12.506	7.653	7.892	10.048	5.488	7.594	3.251	5.791	10.941	7.830	7.528	9.039
8.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	79.29	75.14	79.00	77.81	74.29	77.57	72.14	74.67	76.79	76.36	75.57	76.24
	61.35	54.41	78.29	69.25	40.49	46.82	118.12	73.46	57.17	52.09	109.96	73.33
	7.832	7.376	8.848	8.262	6.363	6.842	10.868	8.571	7.561	7.217	10.486	8.563
9.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	81.43	79.71	74.43	78.52	76.14	75.71	72.57	74.81	78.79	77.71	73.50	76.67
	35.10	60.49	29.82	50.35	23.55	46.49	14.25	30.63	36.32	57.49	22.36	43.04
	5.925	7.778	5.368	7.096	4.853	6.819	3.774	5.535	6.026	7.582	4.732	6.629
9.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	81.71	84.57	78.43	81.57	76.71	79.86	70.14	75.57	79.21	82.21	74.29	78.57
	24.78	16.25	106.54	55.48	60.49	79.27	20.41	69.77	48.89	53.31	80.64	71.63
	4.978	4.031	10.322	7.449	7.778	8.903	4.517	8.353	6.992	7.303	8.980	8.463
10.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	88.29	82.86	82.29	84.48	82.86	81.14	73.86	79.29	85.57	82.00	78.07	81.88
	49.35	16.41	76.21	54.63	151.55	15.55	17.84	76.87	107.82	16.71	64.78	72.48
	7.025	4.051	8.730	7.391	12.311	3.943	4.223	8.768	10.383	4.088	8.049	8.514
10.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	84.29	85.57	83.57	84.48	83.57	78.43	81.00	81.00	83.93	82.00	82.29	82.74
	77.06	21.96	23.11	41.39	34.53	7.68	76.29	43.90	55.93	27.57	51.35	45.67
	8.779	4.686	4.807	6.434	5.876	2.771	8.734	6.626	7.478	5.251	7.166	6.758
11.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	87.57	84.14	81.71	84.48	87.00	81.57	85.00	84.52	87.29	82.86	83.36	84.50
	45.67	6.41	50.49	39.06	19.71	33.96	266.00	111.59	32.78	21.64	160.05	75.77
	6.758	2.531	7.106	6.322	4.440	5.828	16.309	10.563	5.725	4.673	12.686	8.705
11.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	91.29	88.43	86.71	88.81	85.57	86.29	82.00	84.62	88.43	87.36	84.36	86.71
	53.97	49.25	21.64	44.82	50.24	44.49	14.86	40.05	60.25	47.52	23.90	46.82
	7.343	6.946	4.652	6.695	7.088	6.670	3.854	6.328	7.762	6.893	4.879	6.843
ALL	84.	84.	84.	252.	84.	84.	84.	252.	168.	168.	168.	504.
	79.04	76.60	76.15	77.28	73.65	75.73	70.64	72.67	76.37	75.16	73.40	74.98
	130.20	115.34	104.13	116.22	136.87	103.04	199.09	125.06	140.90	111.25	124.20	126.94
	11.410	10.739	10.205	10.873	11.699	10.151	11.362	11.183	11.870	10.547	11.145	11.267

THE BOARD OF EDUCATION FOR THE BOROUGH OF NORTH YORK

TEST STANDARDIZATION STUDY DATA — TEST : RAVEN RAW SCORE — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 20.14 8.69 2.949	7. 17.29 29.06 5.391	7. 16.71 4.78 2.185	21. 18.05 16.43 4.053	7. 16.86 6.69 2.587	7. 18.29 18.20 4.267	7. 18.00 19.43 4.408	21. 17.71 15.16 3.893	14. 18.50 10.39 3.224	14. 17.79 23.88 4.887	14. 17.36 12.52 3.538	42. 17.88 15.92 3.977
6.6	7. 19.43 7.39 2.718	7. 20.14 6.69 2.587	7. 20.24 15.92 3.990	21. 19.95 10.14 3.184	7. 19.29 19.63 4.431	7. 20.00 12.00 3.464	7. 15.43 4.82 2.195	21. 18.24 16.18 4.023	14. 19.36 13.52 3.676	14. 20.07 9.35 3.058	14. 17.86 16.27 4.033	42. 19.10 13.90 3.728
7.0	7. 21.57 24.53 4.953	7. 19.14 12.69 3.563	7. 20.71 9.06 3.010	21. 20.48 16.44 4.055	7. 22.43 36.92 6.069	7. 21.00 8.57 2.928	7. 17.86 10.12 3.182	21. 20.43 22.15 4.706	14. 22.00 30.86 5.555	14. 20.07 11.49 3.390	14. 19.29 11.43 3.411	42. 20.45 19.20 4.393
7.6	7. 23.00 14.86 3.854	7. 19.57 8.25 2.871	7. 19.71 6.20 2.491	21. 20.76 17.28 3.504	7. 19.29 17.35 4.165	7. 18.14 7.55 2.748	7. 19.14 14.69 3.833	21. 18.86 13.46 3.668	14. 21.14 19.55 4.422	14. 18.86 8.41 2.900	14. 19.23 10.63 3.245	42. 19.81 13.77 3.711
8.0	7. 21.29 6.20 2.491	7. 26.86 13.27 3.642	7. 23.57 4.82 2.195	21. 23.00 13.32 3.650	7. 23.71 12.29 3.493	7. 21.14 20.41 4.518	7. 19.14 9.84 3.136	21. 21.33 17.65 4.201	14. 22.50 10.68 3.268	14. 24.00 25.00 5.000	14. 21.36 12.23 3.497	42. 22.62 17.14 4.140
8.6	7. 25.00 16.00 4.000	7. 22.29 40.20 6.341	7. 24.00 30.86 5.555	21. 23.76 30.28 5.502	7. 25.29 27.78 4.772	7. 23.57 21.96 4.686	7. 22.86 16.69 4.086	21. 23.90 21.51 4.638	14. 25.14 19.41 4.406	14. 22.93 31.50 5.612	14. 23.43 24.10 4.909	42. 23.83 25.00 5.089
9.0	7. 26.57 29.10 5.395	7. 28.71 18.49 4.300	7. 27.71 23.35 4.832	21. 27.67 24.41 4.941	7. 32.86 202.69 17.398	7. 26.14 20.98 4.580	7. 21.57 10.82 3.289	21. 26.86 132.98 11.532	14. 29.71 175.78 13.258	14. 27.43 21.30 4.615	14. 24.44 26.52 5.149	42. 27.26 78.86 8.880
9.6	7. 30.14 14.12 3.758	7. 25.00 8.29 2.878	7. 27.29 9.63 3.104	21. 27.48 15.11 3.887	7. 28.57 14.82 3.849	7. 28.14 5.27 2.295	7. 26.86 13.55 3.681	21. 27.86 11.74 3.427	14. 29.36 15.09 3.884	14. 26.57 9.25 3.041	14. 27.07 11.64 3.411	42. 27.67 13.46 3.669
10.0	7. 27.57 7.96 2.821	7. 25.14 8.12 2.850	7. 26.14 11.27 3.356	21. 26.29 10.11 3.180	7. 28.29 23.35 4.832	7. 24.43 35.96 5.997	7. 24.86 10.12 3.182	21. 25.86 26.12 5.111	14. 27.93 15.78 3.973	14. 24.79 22.17 4.708	14. 25.50 11.11 3.333	42. 26.07 13.16 4.262
10.6	7. 28.71 8.79 2.962	7. 31.14 2.98 1.726	7. 26.71 17.35 4.165	21. 28.86 12.98 3.603	7. 30.71 19.63 4.431	7. 29.57 22.24 4.716	7. 31.00 5.14 2.268	21. 30.43 16.06 4.007	14. 29.71 15.20 3.899	14. 30.36 13.23 3.637	14. 28.86 15.84 3.980	42. 29.44 15.13 3.890
11.0	7. 30.57 4.53 2.129	7. 28.29 8.20 2.864	7. 27.14 15.55 3.944	21. 28.67 11.46 3.385	7. 27.29 21.63 4.651	7. 29.00 10.00 3.162	7. 27.43 18.82 4.338	21. 27.90 17.42 4.174	14. 28.93 15.78 3.973	14. 28.64 9.23 3.038	14. 27.29 17.20 4.148	42. 28.29 14.59 3.819
11.6	7. 28.86 29.84 5.462	7. 27.57 7.96 2.821	7. 27.86 15.84 3.980	21. 28.10 18.18 4.264	7. 31.43 12.53 3.540	7. 30.86 11.84 3.441	7. 30.14 16.69 4.086	21. 30.81 13.96 3.737	14. 30.14 22.84 4.779	14. 29.21 12.60 3.549	14. 29.00 17.57 4.192	42. 29.45 17.91 4.233
ALL	84. 25.24 29.23 5.406	84. 24.26 32.03 5.659	84. 23.99 26.85 5.181	252. 24.50 29.66 5.446	84. 25.50 67.63 8.224	84. 24.19 34.99 5.915	84. 22.86 37.00 6.083	252. 24.18 47.71 6.907	168. 25.37 48.45 6.960	168. 24.23 33.51 5.789	168. 23.42 32.24 5.678	504. 24.34 33.70 6.221

TEST STANDARDIZATION STUDY DATA — TEST : MAZE COUNTER — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 37.00 310.00 17.607	7. 22.14 94.69 9.731	7. 21.86 29.55 5.436	21. 27.00 194.76 13.956	7. 34.14 334.41 18.287	7. 18.71 86.49 9.300	7. 24.86 202.98 14.247	21. 25.90 248.18 15.754	14. 35.57 324.25 18.007	14. 20.43 93.53 9.671	14. 23.36 118.52 10.886	42. 26.46 221.77 14.892
6.6	7. 23.57 210.24 14.500	7. 19.57 53.39 7.307	7. 21.00 49.71 7.051	21. 21.38 107.19 10.353	7. 19.71 153.06 12.372	7. 21.00 102.57 10.128	7. 23.00 19.71 4.440	21. 21.24 93.61 9.675	14. 21.64 185.37 13.615	14. 20.29 78.49 8.859	14. 22.30 35.71 5.976	42. 21.31 100.41 10.020
7.0	7. 14.86 89.84 9.478	7. 13.00 48.29 6.949	7. 20.71 56.20 7.497	21. 16.19 75.58 8.694	7. 12.00 58.29 7.635	7. 15.14 77.55 8.806	7. 18.71 85.63 9.254	21. 15.29 81.35 9.019	14. 13.43 76.10 8.724	14. 14.07 64.07 8.004	14. 19.71 71.02 8.480	42. 15.74 78.67 8.870
7.6	7. 6.43 13.67 3.698	7. 15.86 35.27 5.938	7. 18.29 48.78 6.984	21. 13.52 58.73 7.663	7. 16.29 127.63 11.297	7. 16.86 75.55 8.692	7. 13.14 36.41 6.034	21. 15.43 82.53 9.085	14. 11.36 94.94 9.744	14. 16.36 55.66 7.460	14. 15.71 49.20 7.015	42. 14.48 1.54 .459
8.0	7. 14.71 59.35 7.704	7. 13.71 32.78 5.725	7. 13.43 45.39 6.737	21. 13.95 46.14 6.793	7. 8.29 9.92 3.149	7. 14.29 69.63 8.345	7. 11.14 22.12 4.703	21. 11.24 39.90 6.316	14. 11.50 44.96 6.706	14. 14.00 51.29 7.161	14. 12.29 35.06 5.921	42. 12.60 44.84 6.698
8.6	7. 11.29 16.20 4.025	7. 6.29 4.49 2.119	7. 11.00 43.43 6.590	21. 9.52 26.63 5.160	7. 15.57 76.24 8.732	7. 12.57 48.24 6.946	7. 14.00 16.86 4.106	21. 14.05 48.62 6.973	14. 13.43 50.82 7.129	14. 9.43 36.24 6.020	14. 12.50 32.39 5.691	42. 11.76 42.74 6.538
9.0	7. 9.86 24.12 4.911	7. 13.71 167.92 12.958	7. 7.14 39.55 6.289	21. 10.24 84.47 9.191	7. 6.86 17.27 4.155	7. 8.00 10.29 3.207	7. 13.14 91.84 9.583	21. 9.33 47.27 6.875	14. 8.36 22.94 4.790	14. 10.66 97.27 9.862	14. 10.14 74.69 8.643	42. 9.76 46.07 8.129
9.6	7. 8.57 32.24 5.678	7. 7.43 3.67 1.917	7. 9.86 27.55 5.249	21. 8.29 21.54 4.641	7. 6.14 28.41 5.330	7. 8.00 12.29 3.505	7. 7.43 31.67 5.628	21. 7.19 24.73 4.972	14. 7.36 31.80 5.639	14. 7.71 8.06 2.839	14. 8.14 30.12 5.486	42. 7.74 23.43 4.841
10.0	7. 7.43 26.24 5.123	7. 10.86 13.84 3.720	7. 6.86 31.27 5.592	21. 8.38 26.90 5.187	7. 4.29 7.06 2.657	7. 8.43 15.10 3.886	7. 8.86 14.69 3.833	21. 7.19 16.54 4.066	14. 5.86 10.12 3.373	14. 9.64 15.94 3.993	14. 7.86 23.08 4.807	42. 7.76 22.07 4.698
10.6	7. 7.00 5.71 2.390	7. 7.14 10.98 3.314	7. 7.14 28.98 5.383	21. 7.10 15.23 3.902	7. 5.71 18.20 4.267	7. 7.71 17.63 4.199	7. 5.29 10.20 3.194	21. 6.24 16.47 4.058	14. 6.36 12.37 3.517	14. 7.43 14.39 3.793	14. 6.21 20.45 4.523	42. 6.67 16.03 4.004
11.0	7. 7.86 27.84 5.276	7. 7.00 5.43 2.330	7. 7.00 5.43 2.330	21. 7.29 13.06 3.614	7. 8.57 23.67 4.866	7. 6.00 21.14 4.598	7. 6.43 12.82 3.580	21. 7.00 20.48 4.525	14. 8.21 25.89 5.087	14. 6.50 13.54 3.679	14. 6.71 9.20 3.034	42. 7.14 16.76 4.097
11.6	7. 6.86 15.98 3.999	7. 6.57 35.96 5.997	7. 7.71 13.06 3.614	21. 7.05 20.24 4.498	7. 4.43 2.24 1.498	7. 5.96 13.84 3.720	7. 7.43 19.96 4.468	21. 5.90 13.51 3.676	14. 5.64 8.09 2.844	14. 6.21 25.03 5.003	14. 7.57 16.53 4.066	42. 6.48 17.20 4.148
ALL	84. 12.95 143.95 11.998	84. 11.94 68.46 8.274	84. 12.58 69.86 8.358	252. 12.49 94.27 9.709	84. 11.83 139.97 11.831	84. 11.98 71.01 8.427	84. 12.79 85.34 9.238	252. 12.17 98.96 9.948	168. 12.39 142.27 11.928	168. 11.91 69.74 8.351	168. 12.68 77.61 8.810	504. 12.33 96.64 9.831

THE BOARD OF EDUCATION FOR THE BOROUGH OF NORTH YORK

TEST STANDARDIZATION STUDY DATA — TEST : MAZE SPEED — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 83.14 70.13 8.374	7. 98.71 237.61 15.415	7. 90.00 188.29 13.722	21. 87.29 174.21 13.196	7. 105.57 1305.96 31.717	7. 87.43 417.68 20.437	7. 87.71 76.49 8.746	21. 93.57 572.05 23.918	14. 94.36 663.80 25.764	14. 88.07 329.07 18.139	14. 89.86 133.70 11.563	42. 90.43 393.01 19.571
6.6	7. 85.00 270.57 16.449	7. 90.86 561.55 23.697	7. 86.00 189.71 13.774	21. 87.29 347.16 18.632	7. 84.86 524.98 22.912	7. 90.00 152.00 12.329	7. 90.57 119.11 10.914	21. 88.48 271.97 16.491	14. 84.93 397.78 19.944	14. 90.43 354.96 18.894	14. 89.29 159.64 12.635	42. 87.88 909.91 17.604
7.0	7. 100.00 202.00 14.213	7. 89.14 194.41 13.580	7. 80.43 222.54 14.918	21. 89.86 267.08 16.343	7. 85.57 286.24 16.919	7. 85.71 155.92 12.487	7. 84.71 515.06 22.695	21. 85.33 319.27 17.868	14. 92.79 296.17 17.210	14. 87.43 173.11 13.157	14. 82.57 373.39 19.323	42. 87.60 298.29 17.271
7.6	7. 96.43 40.68 7.048	7. 101.57 310.25 17.614	7. 83.57 689.68 26.262	21. 93.86 407.17 20.178	7. 100.71 291.64 17.077	7. 85.57 435.37 20.866	7. 86.86 245.55 15.670	21. 91.05 371.19 19.266	14. 98.57 175.25 13.238	14. 93.57 434.82 20.850	14. 85.21 470.31 21.687	42. 92.45 881.15 18.778
8.0	7. 93.43 255.96 15.999	7. 96.71 80.49 8.972	7. 69.71 76.49 8.746	21. 82.95 246.52 15.701	7. 79.14 106.70 10.329	7. 83.57 473.39 21.758	7. 78.29 94.49 9.721	21. 80.33 230.22 15.173	14. 86.29 232.35 15.243	14. 85.14 279.41 16.715	14. 73.50 108.39 10.411	42. 81.64 240.00 15.495
8.6	7. 83.57 144.25 12.010	7. 77.29 125.06 11.183	7. 85.71 312.20 17.669	21. 82.19 206.63 14.375	7. 82.14 167.27 12.933	7. 84.71 182.78 13.520	7. 68.00 222.86 14.928	21. 78.29 244.97 15.651	14. 82.86 156.27 12.501	14. 81.00 167.71 12.950	14. 76.86 345.98 18.601	42. 80.24 229.61 15.153
9.0	7. 80.00 54.29 7.369	7. 83.00 237.14 15.399	7. 79.86 166.13 12.889	21. 80.95 154.62 12.435	7. 70.43 41.68 6.456	7. 79.29 265.35 16.289	7. 69.29 247.35 15.727	21. 73.00 204.76 14.309	14. 75.21 70.88 8.419	14. 81.14 254.70 15.959	14. 74.57 234.68 15.319	42. 76.98 195.50 13.982
9.6	7. 90.00 531.06 23.045	7. 71.71 130.49 11.423	7. 63.29 67.06 8.189	21. 75.10 370.09 19.238	7. 67.71 260.78 16.149	7. 73.71 189.06 13.750	7. 73.00 358.57 18.936	21. 71.48 276.63 16.632	14. 79.00 523.29 22.875	14. 72.71 160.78 12.680	14. 68.14 236.41 15.376	42. 73.29 334.62 18.073
10.0	7. 78.71 161.92 12.725	7. 74.14 130.13 11.006	7. 81.14 228.98 15.132	21. 78.00 172.09 13.118	7. 67.71 109.92 10.484	7. 73.86 93.27 9.657	7. 64.71 101.92 10.095	21. 68.76 116.18 10.779	14. 73.21 166.17 12.891	14. 74.00 96.71 9.834	14. 72.93 237.92 15.262	42. 73.38 165.47 12.864
10.6	7. 76.71 148.79 12.197	7. 86.14 356.41 18.879	7. 76.43 129.68 11.388	21. 79.76 231.99 15.231	7. 77.71 213.35 14.606	7. 78.43 91.39 9.560	7. 60.57 272.82 16.517	21. 75.24 208.66 14.445	14. 77.21 181.31 13.465	14. 82.29 233.78 15.452	14. 73.00 213.00 14.595	42. 77.50 225.44 15.015
11.0	7. 72.14 292.41 17.100	7. 74.57 283.68 16.843	7. 62.71 114.20 13.374	21. 69.81 276.02 16.641	7. 66.29 53.92 7.343	7. 71.00 103.14 10.156	7. 66.71 124.21 11.145	21. 68.00 98.29 9.914	14. 69.21 181.74 13.481	14. 72.79 196.60 14.021	14. 64.71 154.20 12.418	42. 68.90 188.42 13.727
11.6	7. 68.43 29.39 5.421	7. 79.86 635.84 25.216	7. 72.71 102.78 10.138	21. 73.67 278.23 16.680	7. 74.43 267.39 16.352	7. 66.71 85.06 9.223	7. 60.29 564.20 23.753	21. 70.14 315.84 17.772	14. 71.43 157.29 12.546	14. 73.29 403.63 20.091	14. 71.00 336.43 18.342	42. 71.90 305.13 17.324
ALL	84. 83.99 269.28 16.410	84. 83.64 338.18 18.390	84. 77.55 285.99 16.911	252. 81.73 306.56 17.509	84. 80.19 424.18 20.596	84. 80.00 269.66 16.421	84. 75.73 325.70 18.047	252. 78.64 344.09 18.550	168. 82.06 350.33 18.717	168. 81.82 307.24 17.528	168. 76.44 306.68 17.512	504. 80.18 327.71 18.103

TEST STANDARDIZATION STUDY DATA — TEST : MAZE TIMER — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 5.16 7.31 2.704	7. 2.84 4.17 2.042	7. 2.15 0.53 0.725	21. 3.40 5.65 2.378	7. 4.90 6.50 2.550	7. 2.31 1.55 1.246	7. 2.89 2.69 1.640	21. 3.37 4.82 2.195	14. 5.03 6.92 2.631	14. 2.60 2.94 1.716	14. 2.52 1.75 1.321	42. 3.38 5.24 2.288
6.6	7. 2.92 5.82 2.413	7. 2.23 1.03 1.014	7. 2.54 1.01 1.003	21. 2.56 2.70 1.643	7. 2.56 1.86 1.363	7. 2.78 3.33 1.824	7. 2.75 1.16 1.077	21. 2.70 2.13 1.458	14. 2.74 3.87 1.968	14. 2.51 2.25 1.502	14. 2.64 1.09 1.046	42. 2.63 2.42 1.554
7.0	7. 1.93 1.78 1.334	7. 1.58 1.08 1.037	7. 2.34 0.77 0.876	21. 1.95 1.30 1.142	7. 1.12 0.70 0.839	7. 1.83 1.28 1.132	7. 2.29 1.85 1.362	21. 1.75 1.51 1.229	14. 1.53 1.41 1.186	14. 1.71 1.19 1.093	14. 2.31 1.31 1.145	42. 1.85 1.42 1.191
7.6	7. 0.65 0.14 0.380	7. 1.75 1.04 1.020	7. 1.86 0.71 0.842	21. 1.42 0.93 0.962	7. 1.73 3.36 1.833	7. 1.77 1.87 1.368	7. 1.55 0.42 0.647	21. 1.68 1.89 1.375	14. 1.19 2.04 1.429	14. 1.76 1.46 1.206	14. 1.71 0.59 0.766	42. 1.55 1.43 1.104
8.0	7. 1.57 1.34 1.157	7. 1.18 0.32 0.562	7. 1.18 0.72 0.849	21. 1.31 0.83 0.909	7. 0.67 0.08 0.282	7. 1.57 1.67 1.293	7. 1.03 0.25 0.498	21. 1.09 0.80 0.895	14. 1.12 0.91 0.956	14. 1.37 1.03 1.015	14. 1.11 0.49 0.700	42. 1.20 0.83 0.909
8.6	7. 1.11 0.44 0.664	7. 0.72 0.11 0.332	7. 1.16 0.79 0.891	21. 0.99 0.49 0.698	7. 1.65 1.25 1.120	7. 0.97 0.49 0.702	7. 1.60 1.16 1.076	21. 1.41 1.06 1.031	14. 1.38 0.92 0.960	14. 0.85 0.32 0.564	14. 1.38 1.02 1.012	42. 1.20 0.82 0.904
9.0	7. 1.03 0.33 0.573	7. 1.74 4.91 2.216	7. 0.50 0.09 0.292	21. 1.09 2.04 1.427	7. 0.54 0.09 0.306	7. 0.86 0.17 0.408	7. 1.53 0.97 0.986	21. 0.98 0.58 0.762	14. 0.78 0.27 0.519	14. 1.30 2.73 1.654	14. 1.01 0.90 0.892	42. 1.03 1.31 1.145
9.6	7. 0.87 0.51 0.711	7. 0.92 0.44 0.662	7. 0.89 0.21 0.456	21. 0.89 0.38 0.620	7. 0.44 0.10 0.324	7. 0.79 0.16 0.395	7. 0.69 0.25 0.504	21. 0.64 0.19 0.440	14. 0.66 0.35 0.593	14. 0.85 0.30 0.549	14. 0.79 0.24 0.492	42. 0.77 0.31 0.552
10.0	7. 0.67 0.25 0.499	7. 1.05 0.33 0.570	7. 0.68 0.40 0.632	21. 0.80 0.35 0.595	7. 0.31 0.04 0.208	7. 0.90 0.12 0.350	7. 0.91 0.21 0.456	21. 0.71 0.20 0.450	14. 0.49 0.18 0.423	14. 0.97 0.23 0.479	14. 0.90 0.32 0.562	42. 0.75 0.28 0.530
10.6	7. 0.56 0.06 0.249	7. 0.69 0.16 0.402	7. 0.75 0.43 0.659	21. 0.67 0.23 0.475	7. 0.40 0.07 0.257	7. 0.77 0.20 0.444	7. 0.49 0.13 0.361	21. 0.55 0.16 0.395	14. 0.48 0.07 0.266	14. 0.73 0.19 0.425	14. 0.62 0.30 0.548	42. 0.61 0.19 0.441
11.0	7. 0.59 0.27 0.521	7. 0.62 0.07 0.261	7. 0.63 0.04 0.199	21. 0.61 0.13 0.356	7. 0.69 0.20 0.445	7. 0.65 0.36 0.600	7. 0.64 0.14 0.369	21. 0.66 0.23 0.481	14. 0.64 0.24 0.487	14. 0.63 0.21 0.463	14. 0.63 0.09 0.297	42. 0.64 0.18 0.424
11.6	7. 0.63 0.29	7. 0.67 0.74	7. 0.72 0.18	21. 0.67 0.40	7. 0.35 0.03	7. 0.62 0.25	7. 0.61 0.20	21. 0.53 0.17	14. 0.49 0.18	14. 0.65 0.49	14. 0.66 0.19	42. 0.60 0.29
	0.535	0.858	0.422	0.634	0.161	0.499	0.449	0.418	0.419	0.703	0.439	0.542
ALL	84. 1.48 3.23 1.798	84. 1.34 1.67 1.291	84. 1.28 0.98 0.992	252. 1.36 1.97 1.403	84. 1.28 2.83 1.683	84. 1.32 1.43 1.194	84. 1.41 1.48 1.200	252. 1.34 1.90 1.379	168. 1.38 3.04 1.744	168. 1.33 1.55 1.244	168. 1.35 1.22 1.103	504. 1.35 1.94 1.391

TEST STANDARDIZATION STUDY DATA

TEST : HOLES COUNTER 1-4

PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 34.86 215.27 14.672	7. 38.14 165.55 12.867	7. 33.71 106.20 10.306	21. 35.57 165.96 12.879	7. 26.71 369.49 19.196	7. 19.71 228.20 15.106	7. 15.43 46.82 6.842	21. 20.62 236.14 15.367	14. 30.79 308.45 17.563	14. 28.93 281.78 16.786	14. 24.57 160.10 12.653	42. 28.10 256.00 16.028
6.6	7. 22.00 189.14 13.753	7. 22.29 217.92 14.762	7. 26.00 133.43 11.551	21. 23.43 183.48 13.546	7. 15.57 25.96 5.095	7. 27.86 214.69 14.652	7. 28.71 293.92 17.144	21. 24.05 214.24 14.637	14. 18.79 117.88 10.857	14. 25.07 224.07 14.969	14. 27.36 215.52 14.680	42. 23.74 188.96 14.105
7.0	7. 21.86 101.84 10.391	7. 26.14 159.84 12.643	7. 28.00 257.43 16.045	21. 25.33 179.65 13.403	7. 10.57 30.53 5.525	7. 16.43 73.10 8.550	7. 18.29 142.20 11.925	21. 15.10 92.75 9.631	14. 16.21 98.03 9.901	14. 21.39 140.84 11.835	14. 23.14 223.41 14.947	42. 20.21 162.41 12.744
7.6	7. 10.00 40.57 6.370	7. 23.29 50.78 7.126	7. 22.86 232.41 15.245	21. 18.71 145.92 12.080	7. 11.29 33.92 5.824	7. 19.43 32.25 5.678	7. 10.14 13.27 3.642	21. 13.62 43.57 6.601	14. 10.64 37.66 6.137	14. 21.36 45.23 6.725	14. 16.50 163.25 12.777	42. 16.17 101.23 10.062
8.0	7. 11.29 41.69 6.452	7. 16.14 66.41 8.149	7. 17.00 124.86 11.174	21. 14.81 83.96 9.163	7. 7.57 10.53 3.245	7. 13.43 103.96 10.196	7. 11.14 38.12 6.174	21. 10.71 56.68 7.529	14. 9.43 29.53 5.434	14. 14.79 87.03 9.329	14. 14.07 90.07 9.490	42. 12.74 74.51 8.637
8.6	7. 13.29 119.35 10.925	7. 11.14 26.86 5.083	7. 20.00 96.29 9.813	21. 14.81 94.73 9.733	7. 10.00 53.71 7.329	7. 8.00 44.00 6.633	7. 7.29 4.49 2.119	21. 8.43 35.39 5.949	14. 11.64 89.23 9.446	14. 9.57 37.39 6.115	14. 13.64 90.80 9.529	42. 11.62 75.24 8.674
9.0	7. 12.14 35.55 5.962	7. 15.43 135.96 11.660	7. 10.71 65.06 8.066	21. 12.76 82.75 9.097	7. 10.57 15.67 3.959	7. 11.86 126.98 11.269	7. 17.57 193.67 13.917	21. 13.33 121.37 11.017	14. 11.36 26.23 5.121	14. 13.64 134.86 11.614	14. 14.14 141.12 11.879	42. 13.05 102.14 10.106
9.6	7. 16.14 289.27 17.008	7. 9.43 55.67 7.461	7. 7.29 43.63 6.606	21. 10.95 143.76 11.990	7. 6.14 18.69 4.324	7. 13.14 108.98 10.439	7. 8.29 105.63 10.278	21. 9.19 86.34 9.292	14. 11.14 178.98 13.378	14. 11.29 85.78 9.262	14. 7.79 74.98 8.653	42. 10.07 115.93 10.769
10.0	7. 10.57 47.67 6.905	7. 12.00 172.00 13.115	7. 14.71 80.78 8.989	21. 12.43 103.10 10.154	7. 6.14 30.12 5.489	7. 6.86 25.44 5.083	7. 9.71 26.78 5.175	21. 7.57 29.96 5.473	14. 8.36 43.90 6.618	14. 9.43 105.53 10.273	14. 12.21 60.03 7.748	42. 10.00 72.42 8.510
10.6	7. 8.00 38.86 6.234	7. 10.29 11.92 3.452	7. 17.00 141.71 11.904	21. 11.76 78.75 8.874	7. 2.57 19.96 4.468	7. 4.29 10.20 3.194	7. 7.14 14.12 3.758	21. 4.67 19.32 4.280	14. 5.29 36.78 6.064	14. 7.29 20.06 4.479	14. 12.07 102.21 10.110	42. 8.21 61.12 7.818
11.0	7. 10.29 65.06 8.066	7. 9.43 44.82 6.695	7. 11.86 336.98 18.357	21. 10.52 149.96 12.246	7. 6.86 21.27 4.611	7. 6.57 33.10 5.753	7. 5.57 26.53 5.151	21. 6.33 27.27 5.222	14. 8.57 46.10 6.790	14. 9.00 41.00 6.403	14. 8.71 191.63 13.843	42. 8.43 93.01 9.644
11.6	7. 11.00 37.43 6.118	7. 4.00 12.29 3.505	7. 12.00 49.14 7.010	21. 9.00 45.62 6.754	7. 5.71 7.92 2.814	7. 5.86 5.27 2.295	7. 6.71 6.49 2.548	21. 6.10 6.75 2.599	14. 8.36 29.66 5.446	14. 4.93 9.64 3.104	14. 9.36 34.80 5.899	42. 7.55 28.30 5.319
ALL	84. 15.12 155.82 12.483	84. 16.48 175.42 13.244	84. 13.43 196.55 14.020	252. 16.67 177.78 13.333	84. 0.98 89.05 9.436	84. 12.79 129.79 11.392	84. 12.17 117.64 10.846	252. 11.64 113.61 10.659	168. 12.55 129.05 11.360	168. 14.63 156.01 12.490	168. 15.30 166.90 12.919	504. 14.16 152.32 12.330

TEST STANDARDIZATION STUDY DATA

TEST : HOLES COUNTER TOTAL

PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
6.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
9.0	7. 116.14 919.45 30.374	7. 126.14 776.70 27.969	7. 102.43 846.53 29.095	21. 114.90 942.09 30.683	7. 91.86 463.27 21.524	7. 107.71 1105.35 33.247	7. 104.00 146.29 12.095	21. 101.19 617.49 24.849	14. 104.00 838.86 28.963	14. 116.93 1025.93 32.030	14. 103.21 497.33 22.294	42. 108.05 926.91 28.754
9.6	7. 123.43 1319.54 36.317	7. 109.29 605.06 24.598	7. 99.57 974.82 31.222	21. 110.43 1069.77 32.707	7. 76.57 299.1155 17.295	7. 212.29 5677.03 235.960	7. 102.86 1814.70 42.599	21. 130.57 22717.39 150.723	14. 100.00 1357.71 36.847	14. 160.79 30763.21 175.489	14. 100.71 1399.35 37.408	42. 120.50 11995.01 109.522
10.0	7. 119.71 692.78 26.321	7. 102.29 516.21 22.720	7. 120.29 3309.78 57.522	21. 114.10 1575.71 39.695	7. 66.43 1471.68 38.362	7. 101.43 1073.11 32.758	7. 90.43 219.11 14.802	21. 89.10 1178.85 34.334	14. 93.07 1792.07 42.333	14. 101.86 704.84 28.102	14. 129.86 1772.70 42.775	42. 101.60 1533.53 39.160
10.6	7. 105.00 822.86 28.685	7. 137.57 1771.96 42.095	7. 93.00 978.86 31.287	21. 111.86 1545.84 39.317	7. 82.14 1267.84 35.607	7. 84.29 580.63 24.262	7. 96.00 294.57 17.163	21. 87.48 754.44 27.467	14. 93.57 1175.96 34.297	14. 110.93 1900.64 43.481	14. 94.50 638.96 25.278	42. 99.67 1208.75 34.839
11.0	7. 134.00 3481.43 59.004	7. 107.57 1526.53 39.071	7. 118.14 4110.41 64.112	21. 119.90 3157.42 56.191	7. 113.43 631.11 25.122	7. 93.86 1006.70 31.728	7. 81.14 637.84 25.255	21. 96.14 934.89 30.576	14. 123.71 2162.06 46.498	14. 103.71 1313.64 36.244	14. 99.64 2716.38 52.119	42. 108.02 2197.31 46.868
11.6	7. 117.29 361.07 19.002	7. 95.43 488.54 22.103	7. 132.29 632.49 25.149	21. 115.33 710.23 26.650	7. 89.71 338.49 18.398	7. 88.71 196.49 14.017	7. 99.29 707.92 26.607	21. 92.57 437.00 20.905	14. 103.50 539.82 23.234	14. 92.57 357.39 18.905	14. 115.79 842.46 29.699	42. 103.95 703.14 26.517
ALL	84. 59.63 4226.52 65.012	84. 56.61 3778.86 61.472	84. 55.39 4067.85 63.780	252. 57.21 4027.49 63.463	84. 43.35 2358.46 48.564	84. 57.36 9242.42 96.137	84. 48.56 2705.29 52.012	252. 49.75 4802.16 69.298	168. 51.40 3358.80 57.955	168. 56.98 6513.78 80.689	168. 51.98 3398.25 58.295	504. 53.48 4478.77 66.549

TEST STANDARDIZATION STUDY DATA — TEST : HOLES TIMER 1-4 — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 5.02 6.97 2.639	7. 4.53 6.48 2.546	7. 2.98 0.85 0.923	21. 4.18 5.52 2.350	7. 4.00 13.64 3.694	7. 3.19 9.77 3.126	7. 3.22 12.89 3.591	21. 3.47 12.25 3.499	14. 4.51 10.57 3.250	14. 3.86 8.59 2.929	14. 3.10 6.89 2.624	42. 3.83 9.01 3.002
6.6	7. 3.36 9.48 3.078	7. 2.99 3.43 1.852	7. 3.11 1.00 1.732	21. 3.15 5.32 2.308	7. 1.83 0.96 0.978	7. 3.89 9.90 3.130	7. 4.06 7.05 2.656	21. 3.26 6.96 2.638	14. 2.59 5.80 2.407	14. 3.44 6.92 2.611	14. 3.58 5.25 2.292	42. 3.21 6.15 2.479
7.0	7. 4.24 15.67 3.958	7. 2.67 1.68 1.298	7. 3.39 7.64 2.765	21. 3.43 9.74 2.957	7. 1.28 0.35 0.594	7. 1.51 0.48 0.691	7. 1.84 1.02 1.350	21. 1.54 0.94 0.969	14. 2.76 10.20 3.193	14. 2.00 1.42 1.190	14. 2.61 5.33 2.309	42. 2.46 5.73 2.394
7.6	7. 1.32 0.90 0.949	7. 2.62 1.65 1.283	7. 2.73 5.27 2.296	21. 2.23 3.02 1.737	7. 1.05 0.39 0.621	7. 1.70 0.63 0.791	7. 1.34 0.85 0.921	21. 1.36 0.69 0.830	14. 1.18 0.66 0.813	14. 2.16 1.25 1.161	14. 2.04 3.54 1.883	42. 1.90 2.04 1.428
8.0	7. 1.06 0.36 0.600	7. 1.34 0.46 0.681	7. 1.65 0.82 0.904	21. 1.35 0.60 0.777	7. 0.68 0.10 0.309	7. 1.72 1.79 1.339	7. 1.24 0.60 0.775	21. 1.21 1.01 1.005	14. 0.87 0.26 0.514	14. 1.53 1.16 1.079	14. 1.44 0.75 0.866	42. 1.28 0.81 0.901
8.6	7. 1.45 1.92 1.385	7. 1.03 0.57 0.757	7. 1.40 0.75 0.867	21. 1.30 1.12 1.056	7. 1.35 1.02 1.008	7. 0.82 0.41 0.638	7. 0.62 0.10 0.309	21. 0.93 0.60 0.776	14. 1.40 1.47 1.212	14. 0.92 0.50 0.708	14. 1.01 0.58 0.750	42. 1.11 0.85 0.944
9.0	7. 1.19 0.21 0.458	7. 2.13 5.65 2.376	7. 1.03 0.88 0.939	21. 1.45 2.48 1.576	7. 0.98 0.13 0.368	7. 1.24 1.45 1.203	7. 1.01 0.19 0.436	21. 1.08 0.60 0.776	14. 1.08 0.18 0.425	14. 1.66 3.75 1.936	14. 1.02 0.54 0.732	42. 1.26 1.58 1.256
9.6	7. 1.86 3.58 1.892	7. 1.28 1.63 1.276	7. 0.69 0.43 0.655	21. 1.28 2.11 1.452	7. 0.55 0.19 0.435	7. 1.18 0.50 0.708	7. 0.53 0.41 0.644	21. 0.75 0.46 0.677	14. 1.20 2.32 1.523	14. 1.23 1.07 1.033	14. 0.61 0.43 0.654	42. 1.01 1.26 1.163
10.0	7. 1.25 0.77 0.875	7. 1.02 2.20 1.484	7. 1.13 0.48 0.694	21. 1.13 1.16 1.077	7. 0.53 0.29 0.535	7. 0.86 0.89 0.944	7. 1.21 0.95 0.921	21. 0.80 0.72 0.846	14. 0.89 0.66 0.811	14. 0.94 1.55 1.247	14. 1.07 0.67 0.818	42. 0.97 0.97 0.983
10.6	7. 0.66 0.32 0.569	7. 0.78 0.06 0.752	7. 1.76 1.89 1.376	21. 1.07 1.00 1.002	7. 0.19 0.11 0.328	7. 0.41 0.17 0.416	7. 0.71 0.09 0.301	21. 0.44 0.17 0.412	14. 0.42 0.27 0.521	14. 0.59 0.15 0.391	14. 1.24 1.27 1.126	42. 0.75 0.69 0.829
11.0	7. 0.87 0.26 0.507	7. 0.74 0.33 0.571	7. 0.80 1.04 1.021	21. 0.80 0.54 0.738	7. 0.52 0.18 0.429	7. 0.79 0.96 0.980	7. 0.37 0.12 0.347	21. 0.56 0.45 0.672	14. 0.70 0.25 0.501	14. 0.76 0.64 0.803	14. 0.59 0.63 0.792	42. 0.68 0.51 0.716
11.6	7. 1.16 0.49 0.699	7. 0.43 0.16 0.404	7. 1.07 0.38 0.613	21. 0.89 0.45 0.671	7. 0.71 0.19 0.435	7. 0.58 0.03 0.163	7. 0.46 0.05 0.230	21. 0.58 0.10 0.315	14. 0.93 0.39 0.626	14. 0.50 0.10 0.317	14. 0.77 0.31 0.554	42. 0.74 0.30 0.546
ALL	84. 1.95 5.29 2.300	84. 1.80 3.37 1.836	84. 1.81 2.83 1.681	252. 1.85 3.83 1.958	84. 1.14 2.39 1.547	84. 1.49 3.26 1.806	84. 1.37 3.31 1.818	252. 1.33 3.01 1.735	168. 1.55 4.01 2.002	168. 1.64 3.34 1.827	168. 1.59 3.12 1.765	504. 1.50 3.49 1.868

TEST STANDARDIZATION STUDY DATA — TEST : HOLES TIMER TOTAL — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
6.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
9.0	7. 19.26 32.37 5.690	7. 21.05 114.85 10.717	7. 14.71 38.60 6.213	21. 18.17 70.34 8.387	7. 14.01 47.87 6.919	7. 17.72 36.80 6.066	7. 17.51 18.42 4.292	21. 16.41 37.27 6.105	14. 16.63 47.02 6.857	14. 19.39 79.60 8.865	14. 15.86 31.24 5.589	42. 17.26 54.58 7.388
9.6	7. 21.18 160.47 12.668	7. 17.02 59.51 7.714	7. 14.97 61.23 7.825	21. 17.72 100.42 10.021	7. 13.77 61.04 7.813	7. 17.80 32.84 5.730	7. 12.11 21.67 4.655	21. 14.56 44.24 6.651	14. 17.47 124.48 11.157	14. 17.41 46.33 6.806	14. 13.54 43.49 6.595	42. 14.14 74.82 8.650
10.0	7. 18.06 56.45 7.513	7. 13.49 48.21 6.943	7. 13.05 36.11 6.010	21. 14.88 52.13 7.220	7. 7.90 41.56 6.447	7. 15.79 75.66 8.698	7. 13.11 10.72 3.274	21. 12.27 53.37 7.305	14. 13.00 74.96 8.658	14. 14.64 63.25 7.953	14. 13.08 23.42 4.839	42. 13.57 54.45 7.379
10.6	7. 12.37 26.22 5.120	7. 16.61 29.33 5.416	7. 22.99 172.20 13.122	21. 17.32 94.98 9.746	7. 9.00 11.42 3.379	7. 11.21 26.72 5.169	7. 13.27 16.14 4.017	21. 11.16 21.12 4.596	14. 10.69 21.65 4.653	14. 13.01 35.31 5.942	14. 18.13 117.81 10.854	42. 14.24 67.55 8.219
11.0	7. 16.43 16.01 4.001	7. 13.56 47.52 6.893	7. 14.15 49.51 7.037	21. 14.71 39.21 6.262	7. 12.06 12.21 3.495	7. 12.17 51.70 7.190	7. 9.27 15.83 3.979	21. 11.17 28.38 5.327	14. 14.24 18.87 4.344	14. 12.87 50.09 7.077	14. 11.71 38.61 6.214	42. 12.64 36.93 6.077
11.6	7. 16.50 36.09 6.007	7. 13.38 31.50 5.612	7. 15.38 25.08 5.008	21. 15.09 32.56 5.706	7. 13.09 16.41 4.051	7. 10.39 12.27 3.503	7. 12.06 21.40 4.626	21. 11.85 17.93 4.234	14. 14.80 29.15 5.399	14. 11.89 24.11 4.910	14. 13.72 25.99 5.098	42. 13.47 27.86 5.279
ALL	84. 8.65 105.93 10.292	84. 7.93 94.22 9.707	84. 7.89 99.67 9.984	252. 8.16 100.06 10.003	84. 5.82 52.52 7.247	84. 7.09 74.57 8.635	84. 6.44 53.20 7.294	252. 6.45 60.37 7.770	168. 7.24 81.23 9.013	168. 7.51 84.57 9.196	169. 7.17 76.96 8.773	504. 7.30 80.94 8.997

TEST STANDARDIZATION STUDY DATA — TEST : PEGBOARD SPEED ROWS 1-2 — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	34.57	36.00	39.00	36.19	35.29	31.43	35.71	34.14	34.93	33.71	36.86	35.17
	20.82	79.43	22.00	42.73	8.49	5.39	48.49	24.50	14.78	47.63	36.55	34.66
	4.563	8.912	4.690	6.536	2.914	2.321	6.964	4.950	3.845	6.902	6.046	5.888
6.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	32.29	33.86	31.86	32.67	35.43	34.43	40.57	36.81	33.86	34.14	36.21	34.74
	85.49	15.84	24.98	41.18	58.53	84.25	108.53	91.01	71.98	60.12	85.74	70.38
	8.972	3.980	4.998	6.417	7.651	9.179	10.418	9.540	8.484	7.840	9.260	8.230
7.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	36.43	32.00	32.14	33.52	28.57	29.29	36.86	31.57	32.50	30.64	34.50	32.56
	67.39	9.14	44.69	44.63	19.10	9.35	88.41	53.01	58.68	11.09	77.11	49.77
	8.209	3.024	6.685	6.681	4.371	3.057	9.403	7.281	7.660	3.330	8.492	7.055
7.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	26.86	31.86	31.57	30.10	32.43	33.86	31.57	32.62	29.64	32.86	31.57	31.36
	6.41	26.69	39.67	29.52	38.53	35.27	23.10	33.19	30.23	31.98	31.39	32.94
	2.532	5.167	6.299	5.433	6.207	5.939	4.806	5.761	5.498	5.655	5.602	5.740
8.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	32.57	31.71	27.57	30.62	29.00	32.71	29.57	30.10	30.79	32.21	28.07	30.36
	28.53	6.20	7.39	18.81	17.00	57.63	38.53	39.52	23.45	32.17	23.21	26.23
	5.341	2.491	2.718	4.337	3.464	7.592	6.207	6.286	4.843	5.672	4.818	5.406
8.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	28.14	25.86	27.14	27.05	30.00	30.71	28.14	29.62	29.07	28.29	27.64	28.33
	35.27	7.55	5.84	17.09	45.14	32.20	15.55	32.14	41.07	25.78	10.94	26.27
	5.938	2.748	2.416	4.134	6.719	5.675	3.944	5.669	6.408	5.077	3.308	5.125
9.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	27.00	24.86	25.86	26.24	25.86	28.14	28.57	27.52	26.43	26.50	27.71	26.88
	14.00	2.69	11.55	10.37	8.41	8.98	23.39	15.01	11.53	8.54	18.20	13.10
	3.742	1.641	3.399	3.221	2.900	2.997	4.836	3.874	3.396	2.922	4.267	3.620
9.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	29.43	25.14	24.71	26.76	29.29	25.29	26.43	27.00	29.36	25.71	25.57	26.88
	17.67	7.27	6.20	14.28	14.49	20.49	23.67	22.38	16.09	14.06	15.47	18.34
	4.204	2.695	2.491	3.778	3.807	4.527	4.866	4.731	4.011	3.750	3.950	4.283
10.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	24.43	26.00	25.57	25.33	25.43	24.00	24.00	25.14	24.93	25.00	25.79	25.24
	15.10	2.29	43.10	20.60	14.25	3.71	8.57	9.55	14.92	4.00	25.88	14.09
	3.886	1.512	6.565	4.539	3.774	1.927	2.928	3.091	3.863	2.000	5.088	3.824
10.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	24.00	25.14	31.14	26.76	24.29	24.57	24.00	24.29	24.14	24.86	27.57	25.52
	1.14	11.84	102.41	48.28	7.63	2.82	10.57	7.06	4.41	7.41	60.25	29.20
	1.069	3.441	10.120	6.948	2.763	1.678	3.251	2.657	2.100	2.722	8.321	5.404
11.0	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	22.43	24.86	25.14	24.14	23.29	22.57	25.14	23.67	22.86	23.71	25.14	23.96
	6.53	18.41	19.84	16.41	11.06	4.24	26.98	15.27	8.98	12.63	22.41	15.90
	2.556	4.291	4.454	4.051	3.326	2.060	5.194	3.908	2.997	3.554	4.838	3.987
11.6	7.	7.	7.	21.	7.	7.	7.	21.	14.	14.	14.	42.
	25.14	31.00	24.14	26.76	24.14	24.86	23.14	24.05	24.64	27.93	23.64	25.40
	11.84	311.43	8.12	110.61	7.55	23.55	7.27	13.28	9.94	176.92	7.94	68.29
	3.441	17.647	2.850	10.997	2.748	4.853	2.695	3.645	3.153	13.301	2.819	8.264
ALL	84.	84.	84.	252.	84.	84.	84.	252.	168.	168.	168.	504.
	28.61	29.11	28.82	28.85	28.58	28.49	29.46	28.88	28.60	28.80	29.10	28.86
	43.88	56.33	43.69	48.01	36.51	39.85	63.13	46.73	40.19	48.19	53.55	47.37
	6.624	7.506	6.610	6.929	6.042	6.312	7.945	6.836	6.340	6.942	7.318	6.883

TEST STANDARDIZATION STUDY DATA — TEST : PEGBOARD SPEED ALL ROWS — PSYCHOLOGICAL SERVICES

SEX:	< - - - MALE			- - - >	< - - - FEMALE			- - - >	< - - - MALE & FEMALE			- - - >
SES:	1	2	3	1+2+3	1	2	3	1+2+3	1	2	3	1+2+3
AGE												
6.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
6.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
7.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
8.6	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	7. 0.0 -0.0 0.0	21. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	14. 0.0 -0.0 0.0	42. 0.0 -0.0 0.0
9.0	7. 73.71 77.04 8.779	7. 65.57 43.10 6.565	7. 69.71 49.63 7.045	21. 69.67 67.65 8.225	7. 69.71 78.78 8.876	7. 71.29 43.35 6.584	7. 74.14 105.84 10.288	21. 71.71 79.35 8.908	14. 71.71 81.92 9.051	14. 69.43 61.79 7.869	14. 71.93 82.64 9.091	42. 70.66 74.55 8.634
9.6	7. 71.29 81.35 9.020	7. 71.00 106.29 10.309	7. 63.71 35.63 5.969	21. 68.67 86.70 9.311	7. 75.29 114.78 10.713	7. 63.57 82.24 9.069	7. 72.14 140.12 11.837	21. 70.33 136.89 11.700	14. 73.29 102.06 10.103	14. 67.29 109.06 10.395	14. 67.93 105.64 10.278	42. 69.50 112.48 10.606
10.0	7. 67.57 82.53 9.085	7. 69.86 26.41 5.139	7. 64.00 98.29 9.914	21. 67.14 74.89 8.654	7. 64.00 42.29 6.503	7. 64.43 33.96 5.828	7. 65.00 71.43 8.451	21. 65.14 49.64 7.046	14. 66.79 63.03 7.939	14. 67.14 37.55 6.128	14. 64.50 85.11 9.225	42. 66.14 63.27 7.954
10.6	7. 63.43 28.25 5.315	7. 66.14 52.13 7.220	7. 86.86 669.55 25.876	21. 72.14 350.46 18.959	7. 63.86 60.12 7.754	7. 64.00 17.43 4.174	7. 64.14 68.98 8.305	21. 64.00 48.86 6.990	14. 63.64 44.23 6.651	14. 65.07 35.02 5.993	14. 75.50 498.25 22.322	42. 68.07 220.73 14.857
11.0	7. 58.71 33.63 5.799	7. 64.71 109.92 10.484	7. 63.43 72.82 8.533	21. 62.29 78.78 8.876	7. 59.71 34.21 5.849	7. 62.00 27.43 5.237	7. 63.00 141.43 11.892	21. 61.57 69.58 8.341	14. 59.21 34.17 5.845	14. 63.36 70.52 8.397	14. 62.21 107.17 10.352	42. 61.93 74.31 8.620
11.6	7. 64.00 76.57 8.750	7. 75.71 1097.06 33.122	7. 61.86 63.27 7.954	21. 67.19 440.39 21.199	7. 59.29 33.63 5.799	7. 61.14 90.98 9.538	7. 60.00 48.57 6.969	21. 60.14 58.31 7.636	14. 61.64 60.66 7.788	14. 68.43 647.11 25.438	14. 60.93 56.78 7.535	42. 63.67 266.27 16.318
ALL	84. 33.23 1148.29 33.886	84. 34.42 1311.41 36.213	84. 34.13 1284.95 35.846	252. 33.93 1248.48 35.334	84. 32.92 1123.27 33.515	84. 32.20 1067.00 32.665	84. 33.20 1163.14 34.105	252. 32.74 1117.97 33.436	168. 33.02 1135.82 33.702	168. 33.31 1190.43 34.503	168. 33.67 1224.26 34.989	504. 33.33 1183.57 34.403

Percentile Ranks for the North York Gross Motor Tasks

Score*	6-0 to 6-5	6-6 to 6-11	7-0 to 7-5	7-6 to 7-11	8-0 to 8-5	8-6 to 8-11	9-0 to 9-5	9-6 to 9-11	10-0 to 10-5	10-6 to 10-11	11-0 to 11-5	11-6 to 11-11
19		98		98	96	93	90	90	86	89	83	80
18	96	94	98	96	89	76	71	64	61	71	57	49
17	90	89	92	92	75	60	50	39	45	49	35	29
16	86	81	79	81	55	45	30	23	29	24	13	13
15	76	67	55	60	33	31	18	10	11	12	4	5
14	61	51	33	36	17	19	10	4	4	8		2
13	45	37	23	18	6	13	4		2	4		
12	36	23	15	6	2	11						
11	24	11	7	2		8				2		
10	9		2			5	2					
9	4	6				2						
8	2	4										
7		2										

*Scores on this scale consist of total number of items passed on the motor co-ordination and balancing tests.

REFERENCES

Blishen, B.R. A socio-economic index for occupations in Canada. Canadian Review of Sociology and Anthropology, 1967, 4, 41-53.

Chalfant, J.C., & Sheffelin, M.A. Central processing dysfunctions in children: A review of research. National Institute of Neurological Disease and Stroke, Monography No. 9, United States Department of Health, Education, and Welfare, 1969.

Clements, S.D. Minimal brain dysfunction in children. Public Health Service Publication No. 2015, United States Department of Health, Education, and Welfare, 1969.

Goodman, M., and Goodman, C. Minimal brain dysfunction in children: pre-, peri-, postnatal factors and developmental characteristics. Canadian Family Physician, May 1971, 48-51.

Johnson, D.J., & Myklebust, H.R. Learning disabilities: educational principles and practices. New York: Grune & Stratton, 1967.

Otis, A.S. Otis Quick Scoring Mental Ability Test: Manual of Directions. New York: World Book Company, 1954.

Paine, R.S., Werry, J.S., & Quay, H.C. A study of cerebral dysfunction. Developmental Medicine and Child Neurology, 1968, 10, 505-520.

Reed, H., Reitan, R., and Kløve, H. The influence of cerebral lesions on psychological test performances of older children. Journal of Consulting Psychology, 1965, 29: 247-251.

Reitan, R. Effects of brain-damage on a psychomotor problem-solving task. Perceptual-Motor Skills. 1959, 9, 211-215.

Roach, E.G. and Kephart, N.C. Purdue Perceptual-Motor Survey. Columbus: Charles E. Merrill, 1966.